Exhibit 86

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

IN RE JOHNSON & JOHNSON TALCUM POWDER PRODUCT MARKETING, SALES PRACTICES AND PRODUCTS LIABILITY LITIGATION ***This Document Relates to All Cases***	**Civil Action No. 3:16-md-2738-MAS-RLS** **MDL No. 2738**

SUPPLEMENTAL EXPERT REPORT OF

PATRICIA G. MOORMAN, MSPH, Ph.D.

Dated: November 15, 2023

Patricia G. Moorman

Patricia G. Moorman, MSPH, Ph.D.

Supplemental Report on Talc and Ovarian Cancer
November 2023
Patricia Moorman, Ph.D.

This report serves as a supplemental report to my 2021 addendum and my 2018 report, which together describe my review of the scientific and medical evidence on genital talc use and ovarian cancer risk. Since the submission of my 2018 and 2021 reports, additional relevant literature on talc and ovarian cancer has been published including peer-reviewed papers describing epidemiologic analyses of talc use and ovarian cancer, a screening assessment of talc by Health Canada, papers related to mechanisms of talc carcinogenesis, and several reviews, editorials and letters to the editor. The attached list of references identifies materials I considered and found most relevant to this subject.

In my 2018 report, I described my methodology to review, assess, and weigh material relevant to the inquiry of whether there is an association between talcum powder product use and ovarian cancer. I used the same critical method of review with this new material, for individual publications and in relation to the cumulative body of evidence on this subject. I considered the design of the studies, possible biases and limitations and the likely impact of those limitations on the reported study outcomes. Generally, this new material provides additional evidence that supports the association between talc and ovarian cancer risk and reinforces and strengthens my opinion that genital use of talc is a cause of ovarian cancer.

1. New Peer-Reviewed Epidemiologic Analyses Related to Talc and Ovarian Cancer

Three peer-reviewed papers (Davis, et al., 2021; Phung, et al., 2022; Woolen, et al. 2022)[1-3] describe new epidemiologic analyses of talc or genital powder use and ovarian cancer risk. Each of these papers combined data from multiple studies, most of which had been included in prior publications on talc use and ovarian cancer risk, to analyze different aspects of the association, including comparisons between African American and white women,(Davis, et al., 2021)[1] comparisons of women with and without endometriosis,(Phung, et al., 2022)[2] and the risk of ovarian cancer among frequent users of talcum powder products(Woolen, et al., 2022).[3] A fourth paper (O'Brien, et al., 2023)[4] did not specifically analyze the association between talc

use and ovarian cancer risk, but instead was a methodologic paper on patterns of talc use and reliability of self-reported exposure. Below, I describe each of these papers, their most relevant findings and how they contribute to the overall body of literature on talc use and ovarian cancer risk.

Davis CP, et al. Genital powder use and risk of epithelial ovarian cancer in the Ovarian Cancer in Women of African Ancestry Consortium. Cancer Epidemiology Biomarkers Prev 2021; 30: 1660-1668.[1]

This report from the Ovarian Cancer in Women of African Ancestry Consortium combined data from five studies (four case-control studies and 1 cohort, 3,420 cases and 7,881 controls) to evaluate the association between genital powder use and ovarian cancer in African American and White women. Importantly, I am a co-author on this paper. Four of the five studies (AACES, LACOCS, NCOCS, WHI) included in the analysis had previously published results from their individual study on ovarian cancer and talc use. Odds ratios (ORs) for ovarian cancer in relation to genital powder use were calculated for each study and then combined in a meta-analysis to calculate ORs for the overall study population, for African Americans and for Whites. Analyses were also conducted by histologic type, frequency of use and duration of use.

The overall findings from the analyses were that an increased risk of ovarian cancer among ever users of talc was observed for the entire study population (pooled OR 1.32, 95% CI 1.17, 1.48), for African American women (pooled OR 1.22, 95% CI 0.97-1.53) and for white women (pooled OR 1.36, 95% CI 1.19-1.57). Differences in risk by histologic type were reported for African American women, with higher risk for high-grade serous (OR 1.31, 95% CI 1.01-1.71) than for other histotypes (OR 1.05, 95% CI 0.75-1.47), whereas similar risk by histotype was found for White Women (OR 1.33, 95% CI 1.12-1.56 for serous vs 1.38, 95% CI 1.15-1.66 for all other histotypes). No trends of higher risk with greater frequency of use (> once per week vs. $\leq$ once per week) or longer duration of use (>20 years vs. $\leq$20 years) based on broad categorizations of these variables were apparent. The available data did not allow for consideration of both frequency and duration. The authors noted that tests of heterogeneity did not indicate differences in effect estimates across study sites "highlighting that the results from our included prospective study (WHI) were not materially different from the 4 retrospective case-control studies."

Phung, MT, et al. Effects of risk factors for ovarian cancer in women with and without endometriosis. Fertility Sterility 2022; 118: 960-969.[2]

This paper reported analyses from the Ovarian Cancer Association Consortium (OCAC) in which the investigators examined "the associations between 10 well-established ovarian cancer risk factors and risk of ovarian cancer among women with vs without endometriosis." Data came from eight population-based, case-control studies in the United States and Australia. Some of these studies were included in previous published analyses from OCAC on talc and ovarian cancer.[5] The analyses for talc were based on 4,851 ovarian cancer cases (of whom 461 had endometriosis) and 7,919 controls (569 with endometriosis). Increased risk of ovarian cancer with genital talc use was observed for both women with endometriosis (OR=1.38, 95% CI 1.04-1.84) and women without endometriosis (OR=1.12, 95% CI 1.01-1.25). No increased risk was observed for non-genital use of talc.

The paper's discussion section addressed the higher risk of ovarian cancer with genital talc use among women with endometriosis than women without endometriosis. Although not a statistically significant interaction, the higher risk among women with endometriosis is consistent with inflammation playing a role in the development of ovarian cancer. Endometriosis is considered an inflammatory disease and inflammation has been proposed as a biologically plausible mechanism for talc's association with ovarian cancer. Therefore, the higher risk among women with both endometriosis and genital talc exposure is consistent with a role for inflammation in the development of ovarian cancer.

Woolen SA, et al., Association between the frequent use of perineal talcum powder products and ovarian cancer: a systematic review and meta-analysis. J Gen Intern Med 2022; 371: 2526-32.[3]

This report described a systematic review and meta-analysis focused on studies that had data on frequent use of perineal talcum powder. Because previously published meta-analyses of genital talc use and ovarian cancer focused primarily on ever vs. never use of talc, the authors desired to examine the risk among women who reported higher use of genital talc to provide a more meaningful assessment of the risk of ovarian cancer. Frequent use was based on reports of number of applications per week (at least 4 times per week), per month (at least 20 times per month) or total lifetime applications (>10,000). Using these criteria, they analyzed data from 10

published case-control studies and one cohort study (the Nurses Health Study-I (NHS)). The NHS had not published results on the highest frequency of talc exposure, however the NHS investigators provided these data to the study authors for inclusion in the meta-analysis. The analyses were based on 5,692 ovarian cancer cases and 8,143 controls from the case-control studies and 850 cases in the cohort of 52,191 women from the NHS.

The summary OR combining data from all 11 studies was 1.47 (95% CI 1.31-1.65). The reported OR for the NHS cohort study (1.40, 95% CI 1.17-1.68) was not markedly different than the overall OR for case-control studies (1.49, 95% CI 1.29-1.72). A series of sensitivity analyses were performed in which studies were excluded for various reasons (e.g., lower study quality scores, studies that combined perineal and other talc use). Findings from the analyses in which one or more studies were excluded were substantively similar to the overall findings in terms of the magnitude of the summary OR, the homogeneity of the studies and the lack of evidence of publication bias.

As the authors noted in the discussion, the pooled OR of 1.47 was higher than the summary ORs from other published meta-analyses or pooled analyses, which ranged from approximately 1.25 to 1.35.[6-11] This is to be expected given that other meta-analyses defined the exposure as any use of talc whereas the exposure was defined as frequent use of talc in this meta-analysis. The higher reported pooled OR for frequent talc use in this meta-analysis as compared to the OR reported in meta-analyses reporting on ever use of talc is supportive of a dose-response relationship between genital talc use and ovarian cancer.

O'Brien KM, et al., Douching and genital talc: patterns of use and reliability of self-reported exposure. Epidemiology 2023; 34: 376-384.[4]

This report, which uses data from the Sisters Study cohort, is a methodologic paper that examines patterns of use of talc or douching across the lifespan and compares the reliability of responses from surveys administered at two different time points. To put this in context, the association between talc use and ovarian cancer in this cohort was reported in a 2016 paper by Gonzalez, et al.[12] The main finding was that talc users had a relative risk for ovarian cancer of 0.73, 95% CI 0.44-1.20). This finding is an outlier when considering the overall body of literature as it is only 1 of 3 studies out of the 27 studies included in the major meta-analyses[9-11] that

reported a relative risk less than one. As described in my 2018 report, the exposure measure used in the analyses by Gonzalez, et al. was sub-optimal in that it was based only on talc use in the 12 months prior to enrollment, which resulted in a prevalence of talc use in the cohort of 14%. This prevalence of talc use was far below what has been reported in most other case-control and cohort studies (typically around 40%)(e.g., [13-17] which suggests there had been considerable misclassification of the exposure and raises serious concerns about the findings reported by Gonzalez, et al. The data presented in O'Brien's report help to quantify the extent of misclassification of talc exposure.

O'Brien, et al. compared reported use of talc in the Sisters Study cohort based on responses given in the baseline enrollment questionnaire (2003-09) and those given on a more detailed questionnaire on a follow-up survey (2017-2019). The baseline survey had asked about talc use in the 12 months prior to enrollment in the cohort and at age 10-13. The later survey queried about talc use during each decade of life from teens up through the 70s, age at first and last use, use in relation to menopause and frequent use defined as >1 time per month.

Some of the key findings as reported by the authors were that there was generally good consistency in reported talc use between the two surveys, which could have ranged between 8 and 16 years apart in time depending on when the women completed the surveys. The prevalence of talc use in the cohort based on the more detailed reporting in the later survey was 32%, which was higher than the 27% reporting talc use in the original survey. The higher prevalence in the later survey was to be expected because the original survey asked about talc use only at two timepoints (age 10-13 and at cohort baseline) and would have missed any women who initiated use after age 13 or discontinued use more than a year before enrolling in the cohort. However, a critical observation is that the Gonzalez report[12] on talc use and ovarian cancer risk categorized women as exposed to talc based only on one timepoint (cohort baseline). Their reported prevalence of talc use was only 14%, as compared to the 32% prevalence described in this paper based on more complete ascertainment. Therefore, the prevalence of talc use in the cohort was more than two times higher than the prevalence of talc use on which the Gonzalez analysis was based. Given this profound level of misclassification of the main exposure variable

of talc, it casts serious doubts on the findings reported for talc and ovarian cancer by Gonzalez, et al. in 2016.

O'Brien et al. also reported on the agreement between reported use of talc in the 12 months prior to enrollment on the two surveys, overall and by various characteristics including cancer status (Supplemental Materials - eTable 6 – http://links.lww.com/EDE/C6). They reported that use of talc at that time point was more commonly reported on the baseline enrollment survey (27%) than on the follow-up survey (21%) overall. However, among women who had had an intervening ovarian cancer diagnosis, the reported prevalence was higher on follow-up survey (33%) than at baseline (28%). The authors stated that this could be an indication of recall bias. However, they qualified it by noting that the numbers may not represent all ovarian cancer cases as approximately half of the women diagnosed with ovarian cancer had died before the follow-up survey. They also noted that "12 months before enrollment age made for a vague benchmark".

These findings deserve comment for several reasons. First, the percentages presented in (eTable 6) for prevalence of use in the 12 months prior to enrollment are inconsistent with numbers presented in other parts of the paper. At the top of Table 3, the authors reported that 14% of the cohort reported talc use in the 12 months prior to enrollment, which is half the prevalence cited above (27%) from eTable 6. In light of this apparent error, it's unclear how any conclusion can be drawn about recall bias from these data.

Second, if the data are correct (which does not appear to be the case), the number of ovarian cases is fairly small (n=125). Therefore, the difference in reported prevalence at the two timepoints (28% vs. 33%) would have been only 6 more women reporting talc use at a timepoint. Again, the authors describe 12 months before enrollment as a vague benchmark, so some difference in reporting would be expected.

Third, the interpretation of possible recall bias should be put in the context of the characteristics of the cohort and the timeframe of the follow-up survey. The Sisters Study comprises women who are at increased risk for ovarian cancer and breast cancer by virtue of having a sister with a history of breast cancer. In addition, the cohort was highly educated with over 80% having greater than high school education. The follow-up survey was conducted in 2017-2019, a time when there many TV ads and other mentions of talc and ovarian cancer in the

press. As I described in my 2018 report, recall bias is more likely in situations where the study participants are aware of the study hypothesis and when there has been considerable media attention on the exposure/disease outcome. Given that the cohort was a group of highly educated, high-risk women, it is likely that they were more aware of known and suspected risk factors for ovarian cancer than women from the general population. Their awareness of talc as a risk factor for ovarian cancer would have been heightened by the media attention during the timeframe when they completed the survey. Therefore, although the evidence O'Brien et al. presented for possible recall bias is suspect because of the inconsistency in data presented in the paper, it also has to be interpreted in the context that the degree of recall bias in this study, due to the high-risk, highly educated cohort and the timeframe of the survey, is likely to be greater than in the studies of average-risk women conducted before there was widespread media attention on talc and ovarian cancer. It would not be reasonable to extrapolate from these data and conclude that there was substantial recall bias in the population-based studies conducted many years earlier.

Conclusions from New Epidemiologic Analyses of Talc and Ovarian Cancer

The analyses from the four papers described above all used data from studies that had been included in previous publications reporting on talc use and ovarian cancer risk. Some of the key new findings reported include: 1) Similar overall findings for African American and white women of increased risk of ovarian cancer among genital powder users, with a suggestion of possible racial differences in the association by histotype;[1] 2) Women with endometriosis who use talc appear to be at higher risk for ovarian cancer than women without endometriosis who use talc, a finding that is consistent with inflammation being a possible mechanism for the development of ovarian cancer.[2] 3) Women who were frequent users of talc had higher risk of ovarian cancer than what had been reported in prior meta-analyses comparing ever talc users to never users, which is consistent with a dose-response relationship. Similar findings were observed for the case-control studies and the one cohort study included in the analysis;[3] 4) The key findings reported in the methodologic paper from the Sisters Study [4] include: a) The prevalence of talc use in the cohort based on a more recent survey was 2.3 times higher than the prevalence used in the 2016 report on talc and ovarian cancer in this cohort by Gonzalez, et al.[12] In other

words, over half of the talc users in the cohort had been misclassified in the Gonzalez study. b) The authors report that there may be evidence of recall bias in regard to talc use among women with ovarian cancer, however because of inconsistencies in the data presented, and the characteristics of the cohort and timing of the survey, this conclusion may be incorrect and certainly not generalizable to other study populations.

Overall, the new data, with refinements in the types of analyses performed, strengthen my opinion that genital talc use is a cause of ovarian cancer.

2. Health Canada – Screening Assessment of Talc (Chemical Abstracts Registry Number 14807-96-6, April 2021[18]

This report from Health Canada (the Canadian counterpart of the U.S. Food and Drug Administration) describes a screening assessment of talc conducted by the Minister of Health and Minister of the Environment within the government of Canada with the stated purpose of determining whether talc presents a risk to the environment or to human health. In evaluation of the health risks, they considered data from 34 epidemiologic studies (30 case-control and 4 cohort studies) that were included in the three most recent meta-analyses by Berge, et al (2018), Penninkilampi, et al. (2018) and Taher, et al. (2019).[9-11] They noted that a high percentage of case-control studies in the meta-analyses (85%-92%) as well as three of the four reports from cohort studies reported ORs greater than 1, although not all were statistically significant. The review carefully considered limitations of both cohort studies (e.g., limited assessment of talc exposure, limited duration of follow-up, age of the cohorts and representativeness of the cohorts) and case-control studies (e.g. recall bias, small sample sizes, limited exposure information for some studies, low response rates). They evaluated causation applying the Bradford-Hill considerations of Strength, Consistency, Biological Gradient and Biological Plausibility and then further addressed Bias and Confounding. In regard to the biological plausibility of talc as a cause of ovarian cancer, this report did not mention asbestos as a constituent of talc products that they took into consideration when assessing biological plausibility. In other words, there are plausible biological mechanisms for the carcinogenicity of talc, regardless of whether asbestos is in talcum powder products. It is noteworthy that the investigators took into consideration not only the

published epidemiologic and mechanistic studies but also the expert reports from both plaintiff and defendant witnesses in the talc litigation.

While acknowledging some limitations in the body of evidence, the report stated that "there is a high degree of consistency in the epidemiological studies across several decades conducted in different parts of the world. Although there are uncertainties related to bias, there is confidence in the robustness of the available database for use in characterizing ovarian cancer risk attributed to talc exposure. Furthermore, the available data are indicative of a causal relationship."

The Health Canada report presented a comprehensive and exhaustive review of the evidence on ovarian cancer risk associated with genital talc use, considering epidemiologic studies, mechanistic studies and expert reports from both defense and plaintiff witnesses in talc litigation.[18] Their overall approach was balanced, considering strengths and weaknesses of both case-control and cohort studies and the likely impact of possible biases on the reported relative risks. Their overall conclusion that there is a causal relationship between talc and ovarian cancer is concordant with the conclusion I reached in my prior reports. This report supports and strengthens my opinion that genital talc use can cause ovarian cancer.

3. Other Reviews, Editorials and Correspondence

Below I describe other recently published literature related to talc use and ovarian cancer risk, including reviews, editorials and correspondence. These articles did not report new data analyses, but rather presented their qualitative assessment of the literature or responded to such assessments.

Lynch HN, et al. Systematic review of the association between talc and female reproductive tract cancers. Frontiers in Toxicology August 2023[19]

The stated purpose of this review was to "critically evaluate the possible relationships between perineal exposure to talc-containing products and female reproductive tract cancers." This systematic review presented data from 29 epidemiologic studies of ovarian cancer (3 cohort and 26 case-control studies) but did not combine the data in a meta-analysis to come up with a summary relative risk estimate. The authors assigned quality scores to each of the studies based on five domains (study participation, exposure assessment, outcome assessment, potential

confounding, analysis), which resulted in all of the cohort studies being assigned an overall quality score of "medium" whereas 11 of the 26 case-control studies were assigned a quality score of "medium" and the remaining 15 a quality score of "low". Notably, all but one of case-control studies were assigned a score of "low" on exposure assessment, whereas two of the three cohort studies were rated as "medium", despite the recognition that many of the case-control studies had more detailed information on talc use than the cohort studies. The authors then qualitatively assessed the evidence to come up with an overall conclusion: "Despite the modest number of high-quality epidemiological studies addressing genital use of talc and ovarian cancer, the better-quality studies tend to be negative, providing insufficient evidence and an inadequate basis for concluding with any confidence that there is a causal connection."

Throughout this paper, the authors largely dismissed positive findings from case-control studies as being "overshadowed by recall and reporting bias, enhanced by the unavoidable exposure to news stories, social media and advertisements purporting that talcum powder causes cancer". There appears to be a pattern of the authors being clearly biased in their evaluation of case-control studies as compared to cohort studies.

For example, in regard to study quality ratings, the Gates and Gonzalez cohort studies were both rated "low" on exposure assessment and "medium" on all other study domains and were given an overall score of "medium". In contrast, three case-control studies with identical ratings (Merritt, Jordan and Wong) and four with higher ratings (Ness, Cramer 1999, Green, Cook) were given overall scores of "low". It is unclear why case-control studies with identical or better ratings on individual quality domains would be given a lower overall study quality score than the cohort studies.

Another indication of bias against case-control studies is their statement in their conclusion: "Despite the modest number of high-quality epidemiological studies addressing genital use of talc and ovarian cancer, the better-quality studies tend to be negative, providing insufficient evidence and an inadequate basis for concluding with any confidence that there is a causal connection". This statement is clearly inconsistent with the data presented in their paper. A total of 3 cohort studies and 11 case-control studies received an overall study quality score of "medium", the highest score that any study was assigned. Of these 14 studies, all but the

Gonzalez study reported relative risks greater than 1, and 8 of these studies reported statistically significant increased risks. So clearly, the higher quality studies do not tend to be negative, but rather show a very consistent increased risk of ovarian cancer with talc use.

These examples (and others that could be cited) suggest that the paper's authors largely discounted findings from case-control studies, which comprise roughly 90% of the studies. In some cases, their statements contradict data presented in their paper. Because of the contradictions and apparent bias in the interpretation of study findings, Lynch, et al.'s conclusion of "suggestive evidence of no association between perineal application of talcum powders and risk of ovarian cancer" is not credible.

Wentzensen N, O'Brien K. Talc, body powder, and ovarian cancer: a summary of the epidemiologic evidence. Gynecologic Oncology 2021; 163: 199-208

Wentzensen and O'Brien's review [20] summarized the epidemiologic data on talc, body powder and ovarian cancer, focusing primarily on recent meta-analyses and pooled analyses.[5, 9-11, 21] They addressed associations between talc and ovarian cancer overall, by histologic type, by tubal ligation and hysterectomy status, and by race. The authors conclude that "the epidemiological data from case-control studies and cohort studies suggest that there may be a small, positive association between genital powder use and ovarian cancer, which may be limited to women with patent reproductive tracts". They also state that the results consistently demonstrate a positive association with serous ovarian cancers, and possibly endometrioid cancers, and that the positive association may be limited to women with patent reproductive tracts. In their consideration of biases, they make the statement that because the association from case-control studies may be exaggerated by recall bias and the association from cohort studies may be underestimated by cohort studies because of limited exposure information, the association probably lies somewhere between the estimates. The authors also considered biological mechanisms for the association between talc and ovarian cancer including inflammation and "contamination of talc products with asbestos and other carcinogenic components (e.g., quartz)", but conclude that the current causal mechanisms are unknown.

Cramer [22], in correspondence to the journal, addressed some of the comments the authors (Wentzensen and O'Brien) made about recall bias and confounding by indication,

disputed their conclusion about limited public health relevance, and pointed out recent experimental studies that speak to mechanisms of talc carcinogenesis. Finally, Cramer noted that Wentzensen and O'Brien had not referenced the report from Health Canada that concluded there was a causal association between talc use and ovarian cancer. The Health Canada report came out at approximately the same time the authors submitted their paper (April 2021) and may not have been available to the authors for review, however Cramer thought it was worthy of them responding to it.

Micha JP, et al. Talc powder and ovarian cancer: what is the evidence? Arch Gynecol Obstet 2022; 306: 931-933.[23]

This very brief opinion piece purports to evaluate the evidence on talc powder, with a very limited and misleading description of possible mechanisms of action and incomplete description of clinical evidence. In regard to clinical evidence, the authors cite only 5 case-control studies, all published before 1999, and made no mention of the much larger body of evidence from case-control studies, including more recent studies that were larger and more informative. Further, the study that the authors cite as not demonstrating a relationship between talc and ovarian cancer (Ref 4, Cramer, 1982) actually reported a substantially increased risk. The authors, in their discussion, erroneously state that "cosmetic talc has been asbestos-free for several decades", with no mention of the FDA's finding of asbestos in Johnson & Johnson baby powder, that led to the withdrawal of the product from the market. In short, because of numerous errors and omissions in this review, it does not present any credible evidence related to talc and ovarian cancer.

Tran and Egilman [24] responded to the Micha paper in correspondence to the journal. Their rebuttal addressed numerous points including the presence of asbestos in talc, the evidence on talc particles reaching the ovaries, the possible impact of recall bias, and biomarkers of talc powder and ovarian carcinogenesis.

Slomovitz B, et al. Asbestos and ovarian cancer: examining the historical evidence. Int J Gynecol Cancer 2021; 31: 122-128 [25]

This review was undertaken to examine the evidence that asbestos is causally related to ovarian cancer. As noted by the authors, the World Health Organization's International Agency

for Research on Cancer (IARC) has found asbestos to have a clearly established causal association with ovarian cancer. Slomovitz, et al. also state that the presence of asbestos in baby powder is the underpinning for the lawsuits against Johnson & Johnson. The authors qualitatively reviewed evidence on which IARC reached their conclusion that asbestos causes ovarian cancer, largely studies of occupational exposure to asbestos. The major points of their paper were that there was some inconsistency in findings across studies of asbestos and ovarian cancer and that there is the possibility of misclassification of ovarian cancer outcomes in the studies due to the difficulty distinguishing ovarian cancers from peritoneal malignant mesotheliomas. They conclude that further scientific investigation is needed to clarify the causal association between asbestos and ovarian cancer.

Certain of the points made by the authors are valid. There are some inconsistencies across studies in the magnitude of the association between asbestos and ovarian cancer, however given the relatively small sizes of the occupational cohorts and relatively low incidence of ovarian cancer, some variation across studies would be expected. It is also possible that cases of peritoneal mesothelioma were misdiagnosed as ovarian cancer, but the converse is also true that some ovarian cancers were incorrectly classified as other types of cancer. Despite limitations in the available data, IARC and other agencies (e.g. U.S. Environmental Protection Agency) that have comprehensively reviewed the evidence have concluded that asbestos causes ovarian cancer [26, 27] and that there is no safe level of exposure to asbestos.

It is also important to point out that there are several mischaracterizations in the first paragraph of the introduction to the paper. The authors state that the thousands of lawsuits by women with ovarian cancer claim that their cancers were caused by asbestos. The lawsuits claim that the ovarian cancers were caused by exposure to talcum powder products. The fact that asbestos has actually been found in talc products (not just that they “may have contained asbestos” as the authors state) bolsters the biologic plausibility for talc products causing ovarian cancer however there are other plausible biologic mechanisms beyond asbestos by which talc exposure could cause ovarian cancer. Of note, the Health Canada report described above, which concluded that use of talc products causes ovarian cancer, did not specifically reference asbestos in talc.

This report attempted to cast doubt on whether asbestos is a cause of ovarian cancer. This opinion clearly conflicts with conclusions reached by IARC and EPA. No new data were presented in the paper and there was some mischaracterization of the issues related to talc use and ovarian cancer, therefore this paper did not alter my opinion about talc as a cause of ovarian cancer.

Correspondence re: O'Brien, et al. Association of powder use in the genital area with risk of ovarian cancer. JAMA 2020; 323: 49-59.

The 2021 addendum to my report described the paper by O'Brien, et al. in which they presented a pooled analyses of data from four cohort studies (Nurses Health Study, Nurses Health Study II, Sisters Study and Women's Health Initiative).[21] The overall findings of their analysis of these cohorts was that there was a statistically significant increased risk of ovarian cancer among talc users in women with patent reproductive tracts (HR 1.13, 95% CI 1.01-1.26) and an elevated, but not statistically significant HR overall (1.08, 95% CI 0.99-1.17). Several authors [28, 29] submitted letters to the editor of the journal raising concerns about the interpretation of the findings and certain limitations of the studies, and O'Brien and colleagues responded to those comments. I had not discussed these comments in my 2021 addendum.

Cramer [28] raised concerns about the incompleteness of talc exposure in each of the cohorts, due to the manner in which the cohorts ascertained use of talc. He also noted that most of the women in the cohorts were postmenopausal at the time of assessment of exposure, whereas some case-control studies indicate that the association between talc use and ovarian cancer is stronger for pre-menopausal women than post-menopausal women. Harlow, et al. [29], in a separate letter, made similar points about the likely misclassification of talc exposure in the cohorts. They also noted the median age at which talc exposure was assessed (57 years) and how restricting their analyses to women who survived to that age without having developed ovarian cancer could introduce substantial selection bias (i.e., depletion of susceptibles). They characterized O'Brien, et al.'s statement of "there is no statistically significant association based on a HR of 1.08 (95% CI 0.99-1.17)" as "poor practice in population and clinical research". Harlow, et al. concluded that the 13% increased risk of ovarian cancer in women with intact genital tracts that was observed in the analysis by O'Brien et al., despite the methodological issues that would

tend to result in bias toward the null, should be taken as evidence of an effect of talc on ovarian cancer.

O'Brien, et al. responded to the criticisms raised in both letters.[30] They acknowledged that there was likely misclassification of genital powder exposure, which may have biased their results toward the null. They also agreed that the analyses limited to women with intact reproductive tracts should not be discounted because their tests of heterogeneity between women with and without intact genital tracts were not statistically significant and further state that they "agree that the positive association among women with patent reproductive tracts (HR, 1.13; 95% CI, 1.01-1.26) is consistent with the hypothesis that there is an association between genital powder use and ovarian cancer."

This correspondence, particularly the responses from O'Brien, et al., is particularly useful in the assessment of the data on genital talc and ovarian cancer from cohort studies. While the "lack of association in cohort studies" is often cited as evidence against talc being a cause of ovarian cancer, O'Brien et al. states clearly that there was a positive association among women with patent reproductive tracts. Furthermore, these authors acknowledge that the notable limitations in most of the cohort studies, especially exposure misclassification and the age of the cohorts, are likely to result in a bias to the null. Therefore, the relative risks reported in cohort studies are likely to be underestimates of the true relative risk. Both of these acknowledgments from the authors of the pooled analysis of cohort studies clearly support that the data from cohort studies are consistent with data from case-control studies in regard to the increased risk of ovarian cancer among women who used talc products.

Conclusions from Other Reviews, Editorials and Correspondence

The reviews and correspondence described in this section did not present new data analysis, but rather an evaluation or commentary on existing literature. As described above, there was a range of quality and fairness in evaluating the literature. Overall, because these papers were not presenting new data on talc and ovarian cancer, they did not impact my overall opinion that talc is a cause of ovarian cancer.

4. Overall Conclusions

Recently published literature on the risk of ovarian cancer among women who used genital talc included additional analyses addressing different aspects of talc use and ovarian cancer risk (e.g., frequent use, use among women with endometriosis, etc.), a comprehensive review and evaluation of health risks of talc conducted by the Canadian government, and a number of other reviews, editorials and correspondence. In carefully reviewing and evaluating these materials, my opinions on genital talc use as a cause of ovarian cancer were supported and strengthened. To a reasonable degree of scientific certainty, it remains my opinion that genital talc use can cause ovarian cancer. I reserve the right to modify or refine my opinions based on additional scientific evidence that may emerge on this topic. I also reserve the right to review the reports and testimony of the defense experts.

References

1. Davis, C.P., et al., *Genital Powder Use and Risk of Epithelial Ovarian Cancer in the Ovarian Cancer in Women of African Ancestry Consortium.* Cancer Epidemiol Biomarkers Prev, 2021. **30**(9): p. 1660-1668.
2. Phung, M.T., et al., *Effects of risk factors for ovarian cancer in women with and without endometriosis.* Fertil Steril, 2022. **118**(5): p. 960-969.
3. Woolen, S.A., A.A. Lazar, and R. Smith-Bindman, *Association Between the Frequent Use of Perineal Talcum Powder Products and Ovarian Cancer: a Systematic Review and Meta-analysis.* J Gen Intern Med, 2022. **37**(10): p. 2526-2532.
4. O'Brien, K.M., et al., *Douching and Genital Talc Use: Patterns of Use and Reliability of Self-reported Exposure.* Epidemiology, 2023. **34**(3): p. 376-384.
5. Terry, K.L., et al., *Genital powder use and risk of ovarian cancer: a pooled analysis of 8,525 cases and 9,859 controls.* Cancer Prev Res (Phila), 2013. **6**(8): p. 811-21.
6. Gross, A.J. and P.H. Berg, *A meta-analytical approach examining the potential relationship between talc exposure and ovarian cancer.* J Expo Anal Environ Epidemiol, 1995. **5**(2): p. 181-95.
7. Langseth, H., et al., *Perineal use of talc and risk of ovarian cancer.* J Epidemiol Community Health, 2008. **62**(4): p. 358-60.
8. Pearce, C.L., et al., *Combined and interactive effects of environmental and GWAS-identified risk factors in ovarian cancer.* Cancer Epidemiol Biomarkers Prev, 2013. **22**(5): p. 880-90.
9. Berge, W., et al., *Genital use of talc and risk of ovarian cancer: a meta-analysis.* Eur J Cancer Prev, 2018. **27**(3): p. 248-257.
10. Penninkilampi, R. and G.D. Eslick, *Perineal Talc Use and Ovarian Cancer: A Systematic Review and Meta-Analysis.* Epidemiology, 2018. **29**(1): p. 41-49.
11. Kadry Taher, M., et al., *Critical review of the association between perineal use of talc powder and risk of ovarian cancer.* Reprod Toxicol, 2019. **90**: p. 88-101.
12. Gonzalez, N.L., et al., *Douching, Talc Use, and Risk of Ovarian Cancer.* Epidemiology, 2016. **27**(6): p. 797-802.
13. Gertig, D.M., et al., *Prospective study of talc use and ovarian cancer.* J Natl Cancer Inst, 2000. **92**(3): p. 249-52.
14. Houghton, S.C., et al., *Perineal powder use and risk of ovarian cancer.* J Natl Cancer Inst, 2014. **106**(9).
15. Wu, A.H., et al., *Markers of inflammation and risk of ovarian cancer in Los Angeles County.* Int J Cancer, 2009. **124**(6): p. 1409-15.
16. Schildkraut, J.M., et al., *Association between Body Powder Use and Ovarian Cancer: The African American Cancer Epidemiology Study (AACES).* Cancer Epidemiol Biomarkers Prev, 2016. **25**(10): p. 1411-1417.
17. Ness, R.B., et al., *Factors related to inflammation of the ovarian epithelium and risk of ovarian cancer.* Epidemiology, 2000. **11**(2): p. 111-7.
18. Health Canada, *Screening Assessment Talc.* Chemical Abstracts Service Registry Number 14807-96-6, 2021.
19. Lynch, H.N., et al., *Systematic review of the association between talc and female reproductive tract cancers.* Front Toxicol, 2023. **5**: p. 1157761.

20. Wentzensen, N. and K.M. O'Brien, *Talc, body powder, and ovarian cancer: A summary of the epidemiologic evidence.* Gynecol Oncol, 2021. **163**(1): p. 199-208.
21. O'Brien, K.M., et al., *Association of Powder Use in the Genital Area With Risk of Ovarian Cancer.* JAMA, 2020. **323**(1): p. 49-59.
22. Cramer, D.W., *The association of talc use and ovarian cancer: biased or causal.* Gynecol Oncol Rep, 2022. **41**: p. 100896.
23. Micha, J.P., et al., *Talc powder and ovarian cancer: what is the evidence?* Arch Gynecol Obstet, 2022. **306**(4): p. 931-933.
24. Tran, T.H. and D. Egilman, *Response to Micha et al. (2022) talc powder and ovarian cancer: what is the evidence?* Arch Gynecol Obstet, 2023. **308**(6): p. 1907-1908.
25. Slomovitz, B., et al., *Asbestos and ovarian cancer: examining the historical evidence.* Int J Gynecol Cancer, 2021. **31**(1): p. 122-128.
26. International Agency for Research on Cancer (IARC), *Asbestos (chrysotile, amosite, crocidolite, tremolite, actinolite and anthophyllite).* . 2012, Lyon, France: IARC Monographs Vol 100C.
27. Environmental Protection Agency (EPA), *Asbestos; Reporting and Recordkeeping Requirements Under the Toxic Substances Control Act (TSCA).* Federal Register, 2023. **Vol 88, No. 141**.
28. Cramer, D.W., *Genital Powder Use and Ovarian Cancer.* JAMA, 2020. **323**(20): p. 2095-2096.
29. Harlow, B.L., E.J. Murray, and K.J. Rothman, *Genital Powder Use and Ovarian Cancer.* JAMA, 2020. **323**(20): p. 2096.
30. O'Brien, K.M., D.P. Sandler, and N. Wentzensen, *Genital Powder Use and Ovarian Cancer-Reply.* JAMA, 2020. **323**(20): p. 2096-2097.

EXHIBIT A

Curriculum Vitae

Duke University Medical Center
Curriculum Vitae

Date Prepared: November 2023

Patricia Gripka Moorman, M.S.P.H., Ph.D.

Primary academic department:	Department of Family Medicine and Community Health (formerly Community and Family Medicine) Duke University Medical Center
Present academic rank and title:	Professor Emerita
Date and rank of first Duke faculty appointment:	July 1, 2000, Assistant Professor
Medical licensure:	N/A
Date of birth:	December 19, 1957
Place of birth:	Kansas City, Kansas, USA
Citizen of:	United States of America

EDUCATION

	Institution	Year	Degree
High School	Bishop Ward High School Kansas City, KS	1975	Diploma
College	University of Kansas Lawrence, KS	1980	B.S. with distinction, Pharmacy
Graduate School	University of North Carolina – Chapel Hill Chapel Hill, NC	1989	M.S.P.H., Epidemiology
	University of North Carolina – Chapel Hill Chapel Hill, NC	1993	Ph.D., Epidemiology

PROFESSIONAL TRAINING AND ACADEMIC CAREER

Institution	Position/Title	Dates
Shalinsky Drugs, Kansas City, KS	Pharmacist	1980-1981
Community Pharmacy, Wrentham, MA	Pharmacist, Manager	1981-1982
Revco Drugs, Durham/Raleigh, NC	Pharmacist, Manager	1983-1993
Department of Epidemiology University of North Carolina - Chapel Hill	Graduate Research Assistant Teaching Assistant	1987-1993
Burroughs Wellcome Research Triangle Park, NC	Epidemiology Research Associate Summer Intern	1988
Department of Epidemiology Lineberger Comprehensive Cancer Center University of North Carolina - Chapel Hill	Research Assistant Professor	1994-1996
Dept. of Epidemiology and Public Health Yale Comprehensive Cancer Center Yale University School of Medicine New Haven, CT	Associate Research Scientist	1997-2000
Department of Epidemiology University of North Carolina - Chapel Hill	Adjunct Assistant Professor Adjunct Associate Professor	2000-2005 2005-present
Dept. of Community and Family Medicine Duke University Medical Center	Assistant Professor Associate Professor (non-tenured) Associate Professor (tenured) Clinical Research Unit Director (formerly Site-Based Research Director) Professor (tenured) Professor Emeritus	2000-2004 2004-2008 2008-2014 2009-2019 2014-2021 2021-present

PUBLICATIONS

Refereed Publications

1. Aldrich TE, Vann D, **Moorman PG**, Newman B. Rapid reporting of cancer incidence in a population-based study of breast cancer: one constructive use of a central cancer registry. *Breast Cancer Res Treat.* 1995; 35: 61-64.
2. Newman B, **Moorman PG**, Millikan R, Qaqish BF, Geradts J, Aldrich TE, Liu ET. The Carolina Breast Cancer Study: integrating population-based epidemiology and molecular biology. *Breast Cancer Res Treat.* 1995: 51-60.

3. Newman B, Mu H, Butler L, Millikan RC, **Moorman PG**, King M-C. Frequency of breast cancer attributable to BRCA1 in a population-based series of American women. *JAMA.* 1998; 279: 915-21.

4. Millikan RC, Pittman GS, Newman B, Tse C-K J, Rockhill B, Savitz D, **Moorman PG**, Bell DA. Cigarette smoking, N-acetyltransferases 1 (NAT1) and 2 (NAT2) and breast cancer risk. *Cancer Epidemiol Biomarkers Pre*v. 1998; 7: 371-8.

5. **Moorman PG**, Hulka BS, Hiatt RA, Krieger N, Newman B, Vogelman JH, Orentreich N. Association between high-density lipoprotein cholesterol and breast cancer varies by menopausal status. *Cancer Epidemiol Biomarkers Prev* 1998; 7: 483-8.

6. Rockhill B, **Moorman PG**, Newman B. Age at menarche, time to regular cycling, and breast cancer. *Cancer Causes Control.* 1998; 9: 447-53.

7. Millikan RC, Pittman GS, Tse C-K J, Duell E, Newman B, Savitz D, **Moorman PG**, Boissy RJ, Bell DA. Catechol-O-Methyltransferase (COMT) and breast cancer risk. *Carcinogenesis.* 1998; 19: 1943-7.

8. Marcus PM, Baird DD, Millikan RC, **Moorman PG**, Qaqish B, Newman B. Adolescent reproductive events and subsequent breast cancer risk. *Am J Public Health.* 1999; 89: 1244-7. (PMCID: PMC1508686)

9. Marcus PM, Newman B, **Moorman PG**, Millikan RC, Baird DD, Sternfeld B, Qaqish B. Physical activity at age 12 and adult breast cancer risk (United States). *Cancer Causes Control.* 1999; 10: 293-302.

10. Furberg H, Newman B, **Moorman PG**, Millikan RC. Lactation and breast cancer risk. *Int J Cancer.* 1999; 28; 396-402.

11. **Moorman PG**, Newman B, Millikan RC, Tse C-K, Sandler DP. Participation rates in a case-control study: the impact of age, race, and race of interviewer. *Ann Epidemiol.* 1999; 9: 188-95.

12. Hall IJ, Newman B, Millikan RC, **Moorman PG**. Body size and breast cancer risk in black and white women: the Carolina Breast Cancer Study. *Am J Epidemiol.* 2000; 151: 754-64.

13. Huang W-Y, Newman B, Millikan RC, Schell MJ, Hulka BS, **Moorman PG**. Hormone-related factors and risk of breast cancer by estrogen receptor and progesterone receptor status. *Am J Epidemiol.* 2000; 151: 703-14.

14. Kinney AY, Millikan RC, Lin YH, **Moorman PG**, Newman B. Lifetime alcohol consumption and breast cancer among black and white women in North Carolina. *Cancer Causes Control*, 2000; 11: 345-57.

15. **Moorman PG**, Kuwabara H, Millikan RC, Newman B. Menopausal hormones and breast cancer in a biracial population. *Am J Public Health*. 2000; 90: 966-70. (PMCID: PMC1446270)

16. Marcus PM, Newman B, Millikan RC, **Moorman PG**, Baird DD, Qaqish B. The associations of adolescent cigarette smoking, alcoholic beverage consumption, environmental tobacco smoke, and ionizing radiation with subsequent breast cancer risk. *Cancer Causes Control*. 2000; 11: 271-8.

17. **Moorman PG**, Jones BA, Millikan RC, Hall IJ, Newman B. Race, anthropometric factors, and stage at diagnosis of breast cancer. *Am J Epidemiol*. 2001; 153: 284-91.

18. **Moorman PG,** Ricciuti MF, Millikan RC, Newman B. Vitamin supplement use and breast cancer in a North Carolina population. *Public Health Nutrition*. 2001; 4: 821-8.

19. **Moorman PG**, Hamza A, Marks JR, Olson JA, Jr. Prognostic significance of the number of lymph nodes examined in patients with node negative breast carcinoma. *Cancer.* 2001; 91: 2258-62.

20. **Moorman PG,** Millikan RC, Newman B. Oral contraceptives and breast cancer among black women and white women. *J Natl Med Assoc*. 2001; 93: 329-34. (PMCID: PMC2593962)

21. Schildkraut JM, Calingaert B, Marchbanks PA, **Moorman PG**, Rodrigues GC. The impact of progestin and estrogen potency in oral contraceptives on ovarian cancer risk. *J Natl Cancer Inst*. 2002; 94: 32-8.

22. Plummer P, Jackson S, Konarski J, Mahanna E, Dunmore C, Regan G, Mattingly D, Parker B, Williams S, Andrews C, Vannappagari V, Hall S, Deming S, Hodgson E, **Moorman P**, Newman B, Millikan R. Making epidemiologic studies responsive to the needs of participants and communities: the Carolina Breast Cancer Study. *Environ Mol Mutagen*. 2002; 39: 96-101.

23. **Moorman PG**, Schildkraut JM, Calingaert B, Halabi S, Vine MF, Berchuck A. Ovulation and ovarian cancer: a comparison of two methods for calculating lifetime ovulatory cycles. *Cancer Causes Control*. 2002; 13: 807-811.

24. Lancaster JM, Wenham RM, Halabi S, Calingaert B, Marks JR, **Moorman PG**, Bentley RC, Berchuck A, Schildkraut JM. No relationship between ovarian cancer risk and progesterone receptor gene polymorphism (PROGINS) in a population-based, case-control study in North Carolina. *Cancer Epidemiol Biomarkers Prev*. 2003; 12: 226-7.

25. **Moorman PG**, Grubber JM, Millikan RC, Newman B. The relationships between antidepressant medications and invasive breast cancer and carcinoma *in situ* of the breast. *Epidemiology.* 2003; 14: 307-314.

26. **Moorman PG**, Grubber JM, Millikan RC, Newman B. Association between non-steroidal anti-inflammatory drugs (NSAIDs) and invasive breast cancer and carcinoma *in situ* of the breast. *Cancer Causes Control*. 2003; 14: 915-22.

27. Millikan RC, Player J, de Cotret AR, **Moorman P**, Pittman G, Vannappagari V, Tse C-KJ, Keku T. Manganese superoxide dismutase Ala-9Val polymorphism and risk of breast cancer in a population-based case-control study of African Americans and whites. *Breast Cancer Res*. 2004; 6: 264-74.

28. **Moorman PG**, Terry PD. Consumption of dairy products and the risk of breast cancer: a review of the literature. *Am J Clin Nutr.* 2004; 80: 5-14.

29. **Moorman PG**, Skinner CS, Evans JP, Newman B, Sorenson JR, Calingaert B, Susswein L, Steadman TS, Hoyo C, Schildkraut JM. Racial differences in enrolment in a cancer genetics registry. *Cancer Epidemiol Biomarkers Prev.* 2004; 13: 1349-54.

30. Hall IJ, **Moorman PG,** Millikan RC, Newman B. Comparative analysis of breast cancer risk factors among African-American women and white women. *Am J Epidemiol*. 2005; 161: 40-51.

31. Schildkraut JM, Demark-Wahnefried W, Wenham RW, Grubber J, Jeffreys AS, Grambow SC, Marks J, **Moorman PG**, Hoyo C, Ali S, Walther PJ. IGF1 (CA)19 repeat and IGFBP3 -202 A/C genotypes and the risk of prostate cancer in black and white men. *Cancer Epidemiol Biomarkers Prev*. 2005;14: 403-8

32. **Moorman PG**, Berchuck A, Calingaert B, Halabi S, Schildkraut JM. Antidepressant medication use and risk of ovarian cancer. *Obstet Gynecol*. 2005; 105: 725-30.

33. Spillman MA, Schildkraut JM, Halabi S, **Moorman P**, Calingaert B, Bentley RC, Marks JR, Murphy S, Berchuck A,. Transforming growth factor beta receptor I polyalanine repeat polymorphism does not increase ovarian cancer risk. *Gynecol Oncol.* 2005; 97: 543-9.

34. Hoyo C, Yarnall KSH, Skinner CS, **Moorman PG**, Sellers D, Reid L. Pain predicts non-adherence to Pap smear screening among middle aged African American women. *Prev Med*. 2005; 41: 439-45.

35. **Moorman PG**, Schildkraut JM, Calingaert B, Halabi S, Berchuck A. Menopausal hormones and risk of ovarian cancer. *Am J Obstet Gynecol*. 2005; 193: 76-82.

36. Hoyo C, Berchuck A, Halabi S, Bentley RC, **Moorman P**, Calingaert B, Schildkraut J. Anthropometric measurements and epithelial ovarian cancer risk in African American and white women. *Cancer Causes Control.* 2005; 16: 955-63.

37. Sansbury LB, Millikan RC, Schroeder JC, **Moorman PG**, North KE, Sandler RS. Use of nonsteroidal anti-inflammatory drugs and risk of colon cancer in a population-based, case-control study of African Americans and Whites. *Am J Epidemiol.* 2005; 162: 548-58.

38. **Moorman PG**, Sesay J, Nwosu V, Grubber-Kane J, René de Cotret A, Worley K, Millikan R. COX2 polymorphism (Val511Ala), NSAID use and breast cancer in African-American women. *Cancer Epidemiol Biomarkers Prev.* 2005;14: 3013-4.

39. Schildkraut JM, **Moorman PG**, Halabi S, Calingaert B, Marks JR, Berchuck A. Analgesic drug use and ovarian cancer. *Epidemiology.* 2006; 17: 104-7.

40. Sansbury LB, Millikan RC, Schroeder JC, North KE, **Moorman PG**, Keku TO, René de Cotret A, Player J, Sandler RS. COX-2 polymorphism, use of nonsteroidal anti-inflammatory drugs, and risk of colon cancer in African Americans (United States). *Cancer Causes Control.* 2006; 17: 257-66.

41. Carey LA, Perou CM, Livasy CA, Dressler LG, Cowan D, Conway K, Karaca G, Troester MA, Tse CK, Edmiston S, Deming SL, Geradts J, Cheang MCU, Nielsen TO, **Moorman PG**, Earp HS, Millikan RC. Race, breast cancer subtypes, and survival in the Carolina Breast Cancer Study, *JAMA.* 2006; 295: 2492-502.

42. Schildkraut JM, Murphy SK, Palmieri RT, Iversen E, **Moorman PG**, Huang Z, Halabi S, Calingaert B, Gusberg A, Marks J, Berchuck A. Trinucleotide repeat polymorphisms in the androgen receptor gene and risk of ovarian cancer. *Cancer Epidemiol Biomarkers Prev.* 2007;16: 473-480.

43. Shantakumar S, Terry MB, Teitelbaum SL, Britton JA, Millikan RC, **Moorman PG**, Neugut AI, Gammon MD. Reproductive factors and breast cancer risk among older women. *Breast Cancer Res Treat.* 2007; 102:365-74.

44. Trivers KF, Gammon MD, Abrahamson PE, Lund MJ, Flagg EW, Kaufman JS, **Moorman PG**, Cai J, Olshan AF, Porter PL, Brinton LA, Eley JW, Coates RJ. Association between reproductive factors and breast cancer survival in younger women. *Breast Cancer Res Treat.* 2007; 103: 93-102.

45. Shantakumar S, Terry MB, Paykin A, Teitelbaum SL, Britton JA, Millikan RC, **Moorman PG**, Kritchevsky SB, Neugut AI, Gammon MD. Age and menopausal effects of hormonal birth control and hormone replacement therapy in relation to breast cancer risk. *Am J Epidemiol.* 2007; 165: 1187-98.

46. Coniglio D, Menezes P, **Moorman P**, Morgan P, Schmidt M. Evaluation of student confidence in utilizing EBM skills following completion of an EBM curriculum. *J Physician Assistant Educ.* 2007; 18: 7-13.

47. Trivers KF, Gammon MD, Abrahamson PE, Lund MJ, Flagg EW, **Moorman PG**, Kaufman JS, Cai J, Porter PL, Brinton LA, Eley JW, Coates RW. Oral contraceptives and breast cancer survival in younger women. *Cancer Epidemiol Biomarkers Prev.* 2007; 16: 1822-7.

48. Conway K, Parrish E, Edmiston SN, Tolbert D, Tse C-K, **Moorman P**, Newman B, Millikan RC. Risk factors for breast cancer characterized by the estrogen receptor alpha A908G (K303R) Mutation. *Breast Cancer Res.* 2007; 9: R36.

49. Schildkraut JM, **Moorman PG**, Bland AE, Halabi S, Calingaert, Whitaker R, Lee PS, Elkins-Williams T, Bentley RC, Marks JR, Berchuck A. Cyclin E Overexpression in epithelial ovarian cancer characterizes an etiologic subgroup. *Cancer Epidemiol Biomarkers Prev.* 2008; 17; 585-93.

50. Millikan RC, Newman B, Tse C-K, **Moorman P**, Conway K, Smith LV, Labbok M, Geradts J, Bense JT, Jackson S, Nyante S, Livasy C, Carey L, Earp HS, Perou CM. Epidemiology of basal-like breast cancer. *Breast Cancer Res Treat.* 2008; 109: 123-39. (PMCID: PMC2443103)

51. Ramus SJ, Vierkant RA, Johnatty S, Pike MC, Van Den BergDJ, Wu AH, Pearce CL, Menon U, Gentry-Maharaj A, Gayther SA, DiCioccio R, McGuire V, Whittemore AS, Song H, Easton DF, Pharoah PDP, Chanock S, Lissowska J, Brinton L, Garcia-Closas M, Terry KL, Cramer DW, Tworoger SS, Hankinson SE, Berchuck A, **Moorman PG**, Schildkraut J, Cunningham JM, Kruger Kjaer S, Blaeker J, Hogdall C, Hogdall E, Moysich KB, Edwards RP, Ness RB, Carney ME, Lurie G, Goodman MT, Wang-Gohrke S, Kropp S, Chang-Claude J, The Australian Ovarian Cancer Study Group, The Australian Cancer Study (Ovarian Cancer), Webb PM, Chen X, Beesley J, Chenevix-Trench G, Goode EL, on behalf of the Ovarian Cancer Association Consortium (OCAC). Consortium analysis of seven candidate SNPs for ovarian cancer. *Int J Cancer.* 2008; 123: 380-8. (PMCID: PMC2667795)

52. **Moorman PG**, Calingaert B, Palmieri RT, Iversen ES, Bentley RC, Halabi S, Berchuck A, Schildkraut JM. Hormonal risk factors for ovarian cancer in pre-menopausal and postmenopausal women. *Am J Epidemiol.* 2008; 167: 1059-69. (PMCID: PMC18303003)

53. Palmieri RT, Wilson MA, Iversen ES, Clyde MA, Calingaert B, **Moorman PG**, Poole C, Anderson R, Anderson S, Anton-Culver H, Australian Cancer Study (Ovarian Cancer Group), Australian Ovarian Cancer Study Group, Beesley J, Hogdall E, Brewster W, Carney ME, Chen X, Chenevix-Trench G, Chang-Claude J, Cunningham JM, DiCioccio RA, Doherty JA, Easton DF, Edlund CK, Gayther SA, Gentry-Maharaj A, Goode EL, Goodman MT, Kruger Kjaer S, Hogdall CK, Hopkins MP, Jenison EL, Blaakaer J, Lurie G, McGuire V, Menon U, Moysich KB, Ness RB, Pearce CL, Pharoah PDP, Pike MC, Ramus SJ, Rossing MA, Song H, Terada KY, Van Den Berg D, Vierkant RA, Wang-Gohrke S, Webb PM, Whittemore AS, Wu AH, Ziogas A, Berchuck A, Schildkraut JM, on behalf of the Ovarian Cancer Association Consortium. Polymorphism in the *IL18* gene and epithelial ovarian cancer in non-Hispanic white women. *Cancer Epidemiol Biomarkers Prev.* 2008;17:3567-72. (PMCID: PMC2667795)

54. **Moorman PG**, Schildkraut JM, Iversen ES, Myers ER, Gradison M, Warren-White N, Wang F. A prospective study of weight gain after pre-menopausal hysterectomy. *J Women's Health*. 2009; 18: 699-708. (PMCID: PMC2851125)

55. Song H, Ramus SJ, Kjaer SK, DiCioccio RA, Chenevix-Trench G, Pearce CL, Hogdall E, Whittemore AS, McGuire V, Hogdall C, Blaakaer J, Wu AH, Van Den Berg DJ, Stram DO, Menon U, Gentry-Maharaj A, Jacobs IJ, Webb PM, Beesley J, Chen X; Australian Cancer (Ovarian) Study; Australian Ovarian Cancer Study Group, Rossing MA, Doherty JA, Chang-Claude J, Wang-Gohrke S, Goodman MT, Lurie G, Thompson PJ, Carney ME, Ness RB, Moysich K, Goode EL, Vierkant RA, Cunningham JM, Anderson S, Schildkraut JM, Berchuck A, Iversen ES, **Moorman PG**, Garcia-Closas M, Chanock S, Lissowska J, Brinton L, Anton-Culver H, Ziogas A, Brewster WR, Ponder BA, Easton DF, Gayther SA, Pharoah PD; Ovarian Cancer Association Consortium (OCAC). Association between invasive ovarian cancer susceptibility and 11 best candidate SNPs from breast cancer genome-wide association study. *Hum Mol Genet*. 2009: 18: 2297-304. (PMCID: PMC2685754)

56. Il'yasova D, McCarthy B, Marcello J, Schildkraut JM, **Moorman PG**, Krishnamachari B, Ali-Osman F, Bigner DD, Davis F. Association between glioma and history of allergies, asthma and eczema: a case-control study with three groups of controls. *Cancer Epidemiol Biomarkers Prev*. 2009; 18:1232-8. (PMCID: PMC2700947)

57. Schildkraut JM, Goode EL, Clyde MA, Iversen ED, **Moorman PG**, Berchuck A, Marks JR, Lissowska J, Brinton L, Peplonska B, Cunningham JM, Vierkant RA, Rider DN, Australian Cancer Study (Ovarian Cancer), Australian Ovarian Cancer Study Group, Chenevix-Trench G, Webb PM, Beesley J, Chen X, Phelan C, Sutphen R, Sellers TA, Pearce L, Wu AH, Van Den Berg D, Conti D, Elund CK, Anderson R, Goodman MR, Lurie G, Carney ME, Thompson PJ, Gayther SA, Ramus SJ, Jacobs I, Kruger Kjaer S, Hogdall E, Blaakaer J, Hogdall C, Easton DF, Song H, Pharoah PDP, Whittemore AS, McGuire V, Quaye L, Shadforth D, Anton-Culver H, Ziogas A, Terry KL, Cramer DW, Hankinson SE, Tworoger SS, Calingaert B, Chanock S, Garcia-Closas M on behalf of the Ovarian Cancer Association Consortium. Single Nucleotide Polymorphisms in the TP53 Region and Susceptibility to Invasive Epithelial Ovarian Cancer. *Cancer Research*. 2009, 69: 2349-57. (PMCID: PMC2666150)

58. Pearce CL, Near AM, Van Den Berg DJ, Ramus SJ, Gentry-Maharaj A, Menon U, Gayther SA, Anderson AR, Edlund CK, Wu AH, Chen X, Beesley J, Webb PM, Holt SK, Chen C, Doherty JA, Rossing MA, Whittemore AS, McGuire V, Dicioccio RA, Goodman MT, Lurie G, Carney ME, Wilkens LR, Ness RB, Moysich KB, Edwards R, Jennison E, Kjaer SK, Hogdall E, Hogdall CK, Goode EL, Sellers TA, Vierkant RA, Cunningham JC, Schildkraut JM, Berchuck A, **Moorman PG**, Iversen ES, Cramer DW, Terry KL, Vitonis AF, Titus-Ernstoff L, Song H, Pharoah PD, Spurdle AB, Anton-Culver H, Ziogas A, Brewster W, Galitovskiy V, Chenevix-Trench G; Australian Cancer Study (Ovarian Cancer)6; Australian Ovarian Cancer Study Group627. Validating genetic risk associations for ovarian cancer through the international Ovarian Cancer Association Consortium. *Br J Cancer*. 2009; 100: 412-20. (PMCID: PMC2634713)

59. **Moorman PG**, Palmieri RT, Akushevich L, Berchuck A, Schildkraut JM. Ovarian cancer risk factors in African-American and white women. *Am J Epidemiol*. 2009; 170: 598-606. (PMCID: PMC2732987)

60. Song H, Ramus SJ, Tyrer J, Bolton KL, Gentry-Maharaj A, Wozniak E, Anton-Culver H, Chang-Claude J, Cramer DW, DiCioccio R, Dörk T, Goode EL, Goodman MT, Schildkraut JM, Sellers T, Baglietto L, Beckmann MW, Beesley J, Blaakaer J, Carney ME, Chanock S, Chen Z, Cunningham JM, Dicks E, Doherty JA, Duerst M, Ekici AB, Fenstermacher D, Fridley BL, Giles G, Gore ME, De Vivo I, Hillemanns P, Hogdall C, Hogdall E, Iversen ES , Jacobs IJ, Jakubowska A, Li D, Lissowska J, Lubiński J, Lurie G, McGuire V, McLaughlin J, Mędrek K, **Moorman PG**, Moysich K, Narod S, Phelan C, Pye C, Risch H, Runnebaum IB, Severi G[1], Southey M, Stram DO, Thiel FC, Terry KL, Tsai Y, Tworoger SS, Van Den Berg DJ, Vierkant RA, Wang-Gohrke S, Webb PM, Wilkens LR, Wu AH, Yang H, Brewster W, Ziogas A, Australian Cancer (Ovarian) Study, The Australian Ovarian Cancer Study Group, The Ovarian Cancer Association Consortium, Houlston R, Tomlinson I, Whittemore AS, Rossing MA, Ponder BAJ, Pearce CL, Ness RB, Menon U, Krüger Kjaer S, Gronwald J, Garcia-Closas M, Fasching PA, Easton DF, Chenevix-Trench G, Berchuck A, Pharoah PDP, Gayther SA. A genome-wide association study identified a novel ovarian cancer susceptibility locus on 9p22.2. *Nature Genetics*. 2009; 41: 996-1000. (PMCID: PMC2844110)

61. Doherty JA, Rossing MA, Cushing-Haugen KL, Chen C, Van Den Berg DJ, Wu AH, Pike MC, Ness RB, Moysich K, Chenevix-Trench G, Webb PM, Chang-Claude J, Wang-Gohrke S, Goodman MT, Lurie G, Hogdall E, Kruger Kjaer S, Goode EL, Cunningham JM, Berchuck A, **Moorman PG**, Schildkraut JM, Cramer DW, Terry KL, Garcia-Closas M, Lissowska J, Song H, Pharoah PDP, McGuire V, Whittemore AS, Gayther SA, Ramus SJ, Anton-Culver H, The Australian Ovarian Cancer Study Group, The Australian Cancer Study (Ovarian Cancer), and Pearce CL on behalf of the Ovarian Cancer

Association Consortium (OCAC). ESR1/SYNE1 polymorphism and invasive epithelial ovarian cancer risk: an Ovarian Cancer Association Consortium study. *Cancer Epidemiol Biomarkers Prev.* 2010; 19: 245-50. (PMCID: PMC2863004)

62. Grant DJ, **Moorman PG**, Akushevich L, Palmieri RT, Bentley RC, Schildkraut JM. Primary peritoneal and ovarian cancers: an epidemiological comparative analysis. *Cancer Causes Control*. 2010; 21: 991-8. (PMCID: PMC2883093)

63. Schildkraut J, Iversen E, Williams M, Clyde M, **Moorman P**, Palmieri R, Whitaker R, Bentley R, Marks J, Berchuck A. Association between DNA damage response and repair genes and risk of invasive serous ovarian cancer. *Plos One*. 2010; 5: e10061. (PMCID: PMC2851649)

64. **Moorman PG**, Iversen ES, Marcom PK, Marks JR, Wang F, Kathleen Cunningham Consortium for Research into Familial Breast Cancer (kConFab), Lee E, Ursin G, Rebbeck TR, Domchek SM, Arun B, Susswein L, Isaacs C, Garber JE, Visvanathan K, Griffin CA, Sutphen R, Brzosowicz J, Gruber S, Finkelstein DM, Schildkraut JM. Evaluation of established breast cancer risk factors as modifiers of BRCA1 or BRCA2: a multi-center case-only analysis. *Breast Cancer Research Treat*. 2010; 124: 441-51. (PMCID: PMC2925060)

65. Kelemen L, Goodman M, McGuire V, Rossing MA, Webb P, Kobel M, Anton-Culver H, Beesley J, Berchuck A, Brar S, Carney M, Chang-Claude J, Chenevix-Trench G, Cramer D, Cunningham J, DiCioccio R, Doherty J, Easton D, Fredericksen Z, Fridley B, Gates M, Gayther S, Genry-Maharaj A, Hogdall E, Kjaer S, Lurie G, Menon U, **Moorman P**, Moysich K, Ness R, Palmieri R. Pearce C, Pharoah P, Ramus S, Song H, Stram D, Tworoger S, Van Den Berg D, Vierkant R, Wang-Gohrke S, Whittemore A, Wilkens L, Wu A, Schildkraut J, Sellers T, Goode E. Genetic variation in TYMS in the one-carbon transfer pathway is associated with ovarian carcinoma types in the Ovarian Cancer Association Consortium (OCAC). *Cancer Epidemiol Biomarkers Prev*. 2010; 19: 1822-30. (PMCID: PMC3013232)

66. Warren-White N, **Moorman P**, Dunn MJ, Mitchell CS, Fisher A, Floyd MF. Southeast Raleigh minority faith-based health promotion project. *Calif J Health Promotion.* (Special Issue, Obesity Prevention) 2009; 7: 87-98.

67. Witt KL, **Moorman PG**, Kovalchuk O, Holland N, Block G, Andreassen PR. Genetics and women's health issues – the commitment of EMS to women scientists and gender-associated disease topics. *Environ Mol Mutagen.* 2010; 51: 774-80.

68. Johnatty SE, Beesley J, Chen Z, Macgregor S, Duffy DL, Spurdle AB, DeFazio A, Gava N, Webb PM, Australian Ovarian Cancer Study Group, Australian Cancer Study (Ovarian Cancer), Rossing MA, Doherty JA, Goodman MT, Lurie G, Thompson PJ, Wilkens LR, Ness RB, Moysich KB, Chang-Claude J, Wang-Gohrke S, Cramer DW, Terry KL, Hankinson SE, Tworoger SS, Garcia-Closas M, Yang H, Lissowska J, Chanock SJ, Pharoah PD, Song H, Whittemore AS, Pearce CL, Stram DO, Wu AH, Pike MC, Gayther SA, Ramus SJ, Menon U, Gentry-Maharaj A, Anton-Culver H, Ziogas A, Hogdall E, Kjaer SK, Hogdall C, Berchuck A, Schildkraut JM, Iversen ES, **Moorman PG**, Phelan CM, Sellers TA, Cunningham JM, Vierkant RA, Rider DN, Goode EL, Haviv I, Chenevix-Trench G, Ovarian Cancer Association Consortium. Evaluation of candidate stromal epithelial cross-talk genes identifies association between risk of serous ovarian cancer and TERT, a cancer susceptibility "hot spot". *PLoS Genetics*. 2010; 6: e1001016. (PMCID: PMC2900295)

69. Bolton KL, Tyrer J, Song H, Ramus SJ, Notaridou M, Jones C, Sher T, Gentry-Maharaj A, Wozniak E, Tsai YY, Weidhaas J, Paik D, Van Den Berg DJ, Stram DO, Pearce CL, Wu AH, Brewster W, Anton-Culver H, Ziogas A, Narod SA, Levine DA, Kaye SB, Brown R, Paul J, Flanagan J, Sieh W, McGuire V,

Whittemore AS, Campbell I, Gore ME, Lissowska J, Yang HP, Medrek K, Gronwald J, Lubinski J, Jakubowska A, Le ND, Cook LS, Kelemen LE, Brook-Wilson A, Massuger LF, Kiemeney LA, Aben KK, van Altena AM, Houlston R, Tomlinson I, Palmieri RT, **Moorman PG**, Schildkraut J, Iversen ES, Phelan C, Vierkant RA, Cunningham JM, Goode EL, Fridley BL, Kruger-Kjaer S, Blaeker J, Hogdall E, Hogdall C, Gross J, Karlan BY, Ness RB, Edwards RP, Odunsi K, Moyisch KB, Baker JA, Modugno F, Heikkinenen T, Butzow R, Nevanlinna H, Leminen A, Bogdanova N, Antonenkova N, Doerk T, Hillemanns P, Dürst M, Runnebaum I, Thompson PJ, Carney ME, Goodman MT, Lurie G, Wang-Gohrke S, Hein R, Chang-Claude J, Rossing MA, Cushing-Haugen KL, Doherty J, Chen C, Rafnar T, Besenbacher S, Sulem P, Stefansson K, Birrer MJ, Terry KL, Hernandez D, Cramer DW, Vergote I, Amant F, Lambrechts D, Despierre E, Fasching PA, Beckmann MW, Thiel FC, Ekici AB, Chen X; Australian Ovarian Cancer Study Group; Australian Cancer Study (Ovarian Cancer); Ovarian Cancer Association Consortium, Johnatty SE, Webb PM, Beesley J, Chanock S, Garcia-Closas M, Sellers T, Easton DF, Berchuck A, Chenevix-Trench G, Pharoah PD, Gayther SA. Common variants at 19p13 are associated with susceptibility to ovarian cancer. *Nat Genet*. 2010;42:880-4. (PMCID: PMC3125495)

70. Notaridou M, Quaye L, Dafou D, Jones C, Song H, Høgdall E, Kjaer SK, Christensen L, Høgdall C, Blaakaer J, McGuire V, Wu AH, Van Den Berg DJ, Pike MC, Gentry-Maharaj A, Wozniak E, Sher T, Jacobs IJ, Tyrer J, Schildkraut JM, **Moorman PG**, Iversen ES, Jakubowska A, Medrek K, Lubiński J, Ness RB, Moysich KB, Lurie G, Wilkens LR, Carney ME, Wang-Gohrke S, Doherty JA, Rossing MA, Beckmann MW, Thiel FC, Ekici AB, Chen X, Beesley J, Gronwald J, Fasching PA, Chang-Claude J, Goodman MT, Chenevix-Trench G, Berchuck A, Pearce CL, Whittemore AS, Menon U, Pharoah PD, Gayther SA, Ramus SJ; The Australian Ovarian Cancer Study Group/Australian Cancer Study (Ovarian Cancer); on behalf of the Ovarian Cancer Association Consortium. Common alleles in candidate susceptibility genes associated with risk and development of epithelial ovarian cancer. *Int J Cancer*. 2011; 128: 2063-74. (PMCID: PMC3098608)

71. Near AM, Wu AH, Templeman C, Van Den Berg DJ, Doherty JA, Rossing MA, Goode EL, Cunningham JM, Vierkant RA, Fridley BL, Chenevix-Trench G, Webb PM; the Australian Cancer Study (Ovarian Cancer) (ACS).,; the Australian Ovarian Cancer Study Group (AOCS)., Kjær SK, Hogdall E, Gayther SA, Ramus SJ, Menon U, Gentry-Maharaj A, Schildkraut JM, **Moorman PG**, Palmieri RT, Ness RB, Moysich K, Cramer DW, Terry KL, Vitonis AF, Pike MC, Berchuck A, Pearce CL; on behalf of the Ovarian Cancer Association Consortium. Progesterone receptor gene polymorphisms and risk of endometriosis: results from an international collaborative effort. *Fertil Steril*. 2011; 95: 40-5. (PMCID: PMC3176720)

72. **Moorman PG**, Jones LW, Akushevich L, Schildkraut JM. Recreational physical activity and ovarian cancer risk and survival. *Annals Epidemiol*. 2011; 21: 178-87. (PMCID: PMC3035989)

73. Pearce CL, Doherty JA, Van Den Berg DJ, Moysich K, Hsu C, Cushing-Haugen KL, Conti DV, Ramus SJ, Gentry-Maharaj A, Menon U, Gayther SA, Pharoah PD, Song H, Kjaer SK, Hogdall E, Hogdall C, Whittemore AS, McGuire V, Sieh W, Gronwald J, Medrek K, Jakubowska A, Lubinski J, Chenevix-Trench G; AOCS/ACS Study Group, Beesley J, Webb PM, Berchuck A, Schildkraut JM, Iversen ES, **Moorman PG**, Edlund CK, Stram DO, Pike MC, Ness RB, Rossing MA, Wu AH. Genetic variation in insulin-like growth factor 2 may play a role in ovarian cancer risk. *Hum Mol Genet*. 2011; 20: 2263-72. (PMCID: PMC3090188)

74. **Moorman PG,** Myers ER, Schildkraut JM, Wang F. Reported symptoms before and one year after hysterectomy in African American and White women. *J Women's Health*. 2011; 20: 1035-42. (PMCID: PMC3130512)

75. Ziogas A, Horick NK, Kinney AY, Lowery JR, Domchek SM, Isaacs C, Griffin CA, **Moorman PG**, Edwards KL, Hill DA, Berg JS, Tomlinson GE, Anton-Culver H, Strong LC, Kasten CH, Finkelstein DM, Plon SE. Clinically relevant changes in family history of cancer over time. *JAMA.* 2011; 306: 172-8. (PMCID: PMC3367662)
(Article was selected by Epidemiology and Genomics Research Program (EGRP) of the National Cancer Institute as one of their Research Highlights from EGRP Grantees 2011.)

76. **Moorman PG**, Myers ER, Schildkraut JM, Iversen ES, Wang F, Warren N. Effect of hysterectomy with ovarian preservation on ovarian function. *Obstet Gynecol*. 2011; 118: 1271-9. (PMCID: PMC3223258)
(Article was selected by journal as "Breaking News" and a journal club article for December 2011 issue.)

77. **Moorman PG**, Leppert P, Myers ER, Wang F. Comparison of characteristics of fibroids in African American and white women undergoing pre-menopausal hysterectomy. *Fertil Steril*. 2013; 99: 768-76. (PMCID: PMC3632655)

78. Havrilesky LJ, Gierisch JM, **Moorman PG**, Coeytaux RR, Peragallo Urrutia R, Lowery WJ, Dinan M, McBroom AJ, Wing L, Musty MD, Lallinger KR, Hasselblad V, Sanders GD, Myers ER. Oral Contraceptive Use for the Primary Prevention of Ovarian Cancer. Evidence Report/Technology Assessment No. 212. (Prepared by the Duke Evidence-based Practice Center under Contract No. 290-2007-10066-I.) *AHRQ Publication No. 13-E002-EF*. Rockville, MD: Agency for Healthcare Research and Quality. June 2013. www.effectivehealthcare.ahrq.gov/reports/final.cfm. (PMCID: PMC4781074)

79. Olsen CM, Nagle CM, Whiteman DC, Ness R, Pearce CL, Pike MC, Rossing MA, Terry KA, Wu AH, the Australian Cancer Study (Ovarian Cancer), Australian Ovarian Cancer Study Group, Risch HA, Yu H, Doherty JA, Chang-Claude J, Hein R, Nickels S, Wang-Gohrke S, Goodman MT, Carney ME, Matsuno RK, Lurie G, Moysich K, Kjaer SK, Jensen A, Hogdall E, Goode EL, Fridley BL, Vierkant RA, Larson MC, Schildkraut J, Hoyo C, **Moorman P**, Weber RP, Cramer DW, Vitonis AF, Bandera EV, Olson SH, Rodriguez-Rodriguez L, King M, Brinton LA, Yang H, Garcia-Closas M, Lissowska J, Anton-Culver H, Ziogas A, Gayther SA, Ramus SJ, Menon U, Gentry-Maharaj A, Webb PM on behalf of the Ovarian Cancer Association Consortium. Obesity and risk of ovarian cancer subtypes: evidence from the Ovarian Cancer Association Consortium. *Endocrine Related Cancer*. 2013; 20: 251-62. (PMCID: PMC3857135)

80. Pearce CL, Rossing MA, Lee A, Ness R, Webb PM for Australian Cancer Study (Ovarian Cancer) and Australian Ovarian Cancer Study Group, Nagle CM, Stram D, Chang-Claude J, Hein R, Lurie G, Thompson PJ, Carney ME, Goodman MT, Moysich K, Hogdall E, Jensen A, Goode EL, Fridley BL, Cunningham J, Vierkant RA, Palmieri RT, Ziogas A, Anton-Culver H, Gayther SA, Gentry-Maharaj A, Menon U, Ramus SJ, Berchuck A, Doherty JA, Iversen E, McGuire V, **Moorman P**, Pharoah P, Pike MC, Risch H, Sieh W, Stram D, Terry KL, Whittemore A, Wu AH, Schildkraut JM, Kjaer SK on behalf of the Ovarian Cancer Association Consortium. Combined and interactive effects of environmental and GWAS-identified risk factors in ovarian cancer. *Cancer Epidemiol Biomarkers Prev*. 2013; 22: 880-90. (PMCID: PMC3963289)

81. Havrilesky LJ, **Moorman PG**, Lowery WJ, Gierisch JM, Coeytaux RR, Peragallo Urrutia R, Dinan M, McBroom AJ, Hasselblad V, Sanders GD, Myers ER. Oral contraceptive pills as primary prevention for ovarian cancer: A systematic review and meta-Analysis. *Obstet Gynecol*. 2013; 122: 139-47.

82. Peragallo Urrutia R, Coeytaux RR, Gierisch JM, Havrilesky LJ, **Moorman PG**, Lowery WJ, Dinan M, McBroom AJ, Wing E, Musty MD, Lallinger KR, Hasselblad V, Sanders GD, Myers ER. Risk of acute

thromboembolic events with oral contraceptive use: a systematic review and meta-analysis. *Obstet Gynecol* 2013; 122: 380-9.

83. Gierisch JM, Coeytaux RR, Urrutia RP, Havrilesky LJ, **Moorman PG**, Lowery WJ, Dinan M, McBroom AJ, Hasselblad V, Sanders GD, Myers ER. Oral contraceptive use and risk of breast, cervical,colorectal and endometrial cancer: a systematic review. *Cancer Epidemiol Biomarkers Prev* 2013; 22: 1931-43.

84. Fish LJ, **Moorman PG**, Wordlaw-Stinson L, Vidal A, Smith JS, Hoyo C. HPV and cervical cancer knowledge associated with greater adherence to follow-up colposcopy. *Am J Health Education* 2013; 44: 293-8. (PMCID: PMC4075768)

85. **Moorman PG**, Havrilesky LJ, Gierisch JM, Coeytaux RR, Lowery WJ, Urrutia RP, McBroom AJ, Wing E, Musty MD, Lallinger KR, Hasselblad V, Sanders GD, Myers ER. Oral contraceptives and risk of ovarian and breast cancer among high-risk women: a systematic review and meta-analysis. *J Clin Oncology* 2013; 31: 4188-98.

86. Allott EH, Abern MR, Gerber L, Keto CJ, Aronson WJ, Terris MK, Kane CJ, Amling CL, Cooperberg MR, **Moorman PG**, Freedland SJ. Metformin does not affect risk of biochemical recurrence following radical prostatectomy: results from the SEARCH database. *Prostate Cancer Prostatic Diseases* 2013; 16: 391-7. (PMCID: PMC3830588)

87. Wordlaw-Stinson L, Jones S, Little S, Fish L, Vidal A, Smith JS, Hoyo C, **Moorman PG**. Challenges and recommendations to recruiting women who do not adhere to follow-up gynecological care. *Open J Prev Med* 2014; 4: 123-8. (PMCID: PMC4075769)

88. Hill DA, Horick NK, Isaacs C, Domchek SM, Tomlinson GE, Lowery JT, Kinney AY, Berg JS, Edwards KL, **Moorman PG**, Plon SE, Strong LC, Ziogas A, Griffin CA, Kasten CH, Finkelstein DM for the Cancer Genetics Network. Long-term risk of medical conditions associated with breast cancer treatment. *Breast Cancer Res Treat* 2014: 145: 233-43. (PMCID: PMC4096572)

89. Gaines AR, Turner EL, **Moorman PG,** Freedland SJ, Keto CJ, McPhail ME, Grant DJ, Vidal AC, Hoyo C. The association between race and prostate cancer risk on initial biopsy in an equal access, multiethnic cohort. *Cancer Causes Control* 2014; 25: 1029-35. (PMCID: PMC4117308)

90. Davidson BA, **Moorman PG.** Risk-benefit assessment of the combined oral contraceptive pill in women with a family history of cancer. *Expert Opinion Drug Safety* 2014; 10: 1375-82.

91. Allott EH, Tse CK, Olshan AF, Carey LA, **Moorman PG**, Troester MA. Non-steroidal anti-inflammatory drug use, hormone receptor status, and breast cancer-specific mortality in the Carolina Breast Cancer Study. *Breast Cancer Res Treat* 2014; 147: 415-21. (PMCID: PMC4462196)

92. Schildkraut JM, Alberg AJ, Bandera EV, Barnholtz-Sloan J, Bondy M, Cote ML, Funkhouser E, Peters E, Schwartz AG, Terry P, Wallace K, Akushevich L, Wang F, Crankshaw S, **Moorman PG**. A Multi-Center Population-Based Case-Control Study of Ovarian Cancer in African-American Women: The African American Cancer Epidemiology Study (AACES). *BMC Cancer* 2014; 14: 688. (PMCID: PMC4182887)

93. Myers ER, **Moorman P**, Gierisch JM, Havrilesky LJ, Grimm LJ, Ghate S, Davidson B, Chatterjee Montgomery R, Crowley MJ, McCrory DC, Kendrick A, Sanders GD. Benefits and Harms of Breast Cancer Screening: A Systematic Review. *JAMA* 2015; 314: 1615-34.

94. Qin B, **Moorman PG**, Alberg AJ, Barnholtz-Sloan JS, Bondy M, Cote ML, Funkhouser E, Peters ES, Schwartz AG, Terry P, Schildkraut JM, Bandera EV. Dietary carbohydrate intake, glycemic load,

glycemic index and ovarian cancer risk in African-American women. *Br J Nutr* 2016, 115: 694-702. (PMCID: PMC4844174)

95. Erondu CO, Alberg AJ, Bandera EV, Barnholtz-Sloan J, Bondy M, Cote ML, Funkhouser E, Peters E, Schwartz AG, Terry PD, Wallace K, Akushevich L, Wang F, Crankshaw S, Berchuck A, Schildkraut JM, **Moorman PG**. The association between body mass index and presenting symptoms in African American women with ovarian cancer. *J Women's Health* 2016; 25: 571-8. (PMCID: 4900212)

96. Alberg AJ, **Moorman PG**, Crankshaw S, Wang F, Bandera EV, Barnholtz-Sloan J, Bondy M, Cartmell KB, Cote ML, Ford ME, Funkhouser E, Keleman L, Peters ES, Schwartz AG, Sterba KR, Terry P, Wallace K, Schildkraut JM. Socioeconomic status in relation to the risk of ovarian cancer in African American women: a population-based case-control study. *Am J Epidemiol* 2016, 184: 274-83. (PMCID: PMC4983652)

97. Peres L, Camacho F, Abbott S, Alberg A, Bandera E, Barnholtz-Sloan JS, Bondy M, Cote M, Crankshaw S, Funkhouser E, **Moorman P**, Peters E, Schwartz AG, Terry P, Wang F, Schildkraut J. Analgesic medication use and risk of epithelial ovarian cancer in African American women. *Br J Cancer* 2016; 114: 819-25. (PMCID: PMC4984862)

98. Abbott SE, Bandera EV, Qin B, **Moorman PG**, Barnholtz-Sloan J, Schwartz AG, Funkhouser E, Peters ES, Cote ML, Alberg AJ, Terry P, Bondy M, Crankshaw S, Wang F, Camacho F, Schildkraut JM. Recreational physical activity and ovarian cancer risk in African American women. *Cancer Med* 2016; 5: 1319-27. (PMCID: PMC4924390)

99. Trabuco E, **Moorman PG**, Algeciras-Schimnich A, Weaver AL, Cliby W. Association of ovary-sparing hysterectomy with ovarian reserve. *Obstet Gynecol* 2016; 127: 819-27. (PMCID: PMC5004761)

100. Bandera EV, Qin B, **Moorman PG**, Alberg AJ, Barnholtz-Sloan J, Bondy M, Cote ML, Funkhouser E, Peters ES, Schwartz AG, Terry P, Schildkraut JM. Obesity, weight gain, and ovarian cancer risk in African American women. *Int J Cancer* 2016; 139: 593-600. (PMCID: PMC4982766)

101. Schildkraut JM, Abbott SE, Alberg AJ, Bandera EV, Barnholtz-Sloan J, Bondy M, Cote M, Funkhouser E, Peres LC, Peters ES, Schwartz AG, Terry P, Crankshaw S, Camacho F, Wang F, **Moorman PG**. Association between body powder use and ovarian cancer: the African American Cancer Epidemiology Study (AACES). *Cancer Epidemiol Biomarkers Prev* 2016; 25: 1411-17. (PMCID: PMC5050086)

102. **Moorman PG**, Alberg AJ, Bandera EV, Barnholtz-Sloan J, Bondy M, Cote ML, Funkhouser E, Peters ES, Schwartz AG, Terry P, Crankshaw S, Wang F, Schildkraut JM. Reproductive factors and ovarian cancer risk in African American Women. *Ann Epidemiol* 2016: 26: 654-62. (PMCID: PMC5035608)

103. Qin B, **Moorman PG**, Alberg AJ, Barnholtz-Sloan JS, Bondy M, Cote ML, Funkhouser E, Peters ES, Schwartz AG, Terry P, Schildkraut JM, Bandera EV. Dietary quality and ovarian cancer risk in African-American women. *Am J Epidemiol* 2017; 185: 1281-89. (PMCID: PMC5860470)

104. Peres LC, Alberg AJ, Bandera EV, Barnholtz-Sloan J, Bondy M, Cote ML, Funkhouser E, **Moorman PG**, Peters ES, Schwartz AG, Terry P, Abbott SE, Camacho F, Wang F, Schildkraut JM. Premenopausal hysterectomy and risk of ovarian cancer in African American women. *Am J Epidemiol* 2017; 186: 46-53. (PMCID: PMC5860195)

105. Qin B, **Moorman PG**, Alberg AJ, Barnholtz-Sloan JS, Bondy M, Cote ML, Funkhouser E, Peters ES, Schwartz AG, Terry P, Schildkraut JM, Bandera EV. Dairy, calcium, vitamin D and ovarian cancer risk in African American women. *Br J Cancer* 2016, 115: 1122-1130. (PMCID: PMC5117784)

106. Horick NK, Manful A, Lowery J, Domchek S, **Moorman P**, Griffin C, Visvanathan K, Isaacs C, Kinney A, Finkelstein DM. Physical and psychological health in rare cancer survivors. *J Cancer Surviv* 2017; 11: 158-65. (PMCID: PMC5896295)

107. Peres LC, Bandera EV, Qin B, Guertin KA, Shivappa N, Hebert JR, Abbott SE, Alberg AJ, Barnholtz-Sloan J, Bondy M, Cote ML, Funkhouser E, **Moorman PG**, Peters ES, Schwartz AG, Terry PD, Camacho F, Wang F, Schildkraut JM. Dietary inflammatory index and risk of epithelial ovarian cancer in African American women. *Int J Cancer* 2017; 140: 535-43. (PMCID: PMC5159198)

108. Peres LC, **Moorman PG**, Alberg AJ, Bandera EV, Barnholtz-Sloan J, Bondy M, Cote ML, Funkhouser E, Peters ES, Schwartz AG, Terry PD, Abbott SE, Camacho F, Wang F, Schildkraut JM. Lifetime number of ovulatory cycles and epithelial ovarian cancer risk in African American women. *Cancer Causes Control* 2017; 28: 405-14. (PMCID: PMC5410663)

109. Terry PD, Qin B, Camacho F, **Moorman PG**, Alberg AJ, Barnholtz-Sloan JS, Bondy M, Cote ML, Funkhouser E, Guertin KA, Peters ES, Schwartz AG, Schildkraut JM, Bandera EV. Supplemental selenium may decrease ovarian cancer risk in African-American women. *J Nutrition* 2017; 147: 621-7. (PMCID: PMC5368582)

110. Kelemen LE, Abbott S, Qin B, Peres LC, **Moorman P**, Wallace K, Bandera E, Barnholtz-Sloan J, Bondy M, Cartmell K, Cote M, Funkhouser E, Paddock L, Peters E, Schwartz A, Terry P, Alberg A, Schildkraut J. Cigarette smoking and the association with serous ovarian cancer in African American women: African American Cancer Epidemiology Study (AACES). *Cancer Causes Control* 2017; 28: 699-708. (PMCID: PMC5635599)

111. Wang Y, Freedman JA, Liu H, **Moorman P**, Hyslop T, George D, Lee NH, Patierno SR, Wei Q. Associations between RNA splicing regulatory variants of stemness-related genes and racial disparities in susceptibility to prostate cancer. *Int J Cancer* 2017; 141: 731-43.(PMCID: PMC5512873)

112. McNamara C, Abbott SE, Bandera EV, Qin B, Peres LC, Camacho F, **Moorman PG**, Alberg A, Barnholtz-Sloan JS, Bondy M, Cote ML, Funkhouser E, Peters ES, Schwartz AG, Schildkraut JM, Terry P. Tubal ligation and ovarian cancer risk in African-American women. *Cancer Causes Control* 2017; 28: 1033-41. (PMCID: PMC6785827)

113. Barrett NJ, Ingraham KL, Vann Hawkins T, **Moorman PG**. Engaging African Americans in research: the recruiter's perspective. *Ethn Dis* 2017; 27: 453-462. (PMCID: PMC5720956)

114. DeBono NL, Robinson WR, Lund J, Tse CK, **Moorman PG**, Olshan AF, Troester MA. Race, menopausal hormone therapy and invasive breast cancer in the Carolina Breast Cancer Study. *J Women's Health* 2018; 27: 377-86. (PMCID: PMC5865240)

115. Abbott SE, Camacho F, Peres LC, Alberg AJ, Bandera EV, Bondy M, Cote ML, Funkhouser E, **Moorman PG**, Peters ES, Qin B, Schwartz AG, Barnholtz-Sloan J, Terry P, Schildkraut JM. Recreational physical activity and survival in African American women with ovarian cancer. *Cancer Causes Control* 2018; 29: 77-86.

116. Peres LC, Risch H, Terry KL, Webb PM, Goodman MT, Wu AH, Alberg AJ, Bandera EV, Barnholtz-Sloan J, Bondy M, Cote ML, Funkhouser E, **Moorman PG**, Peters ES, Schwartz AG, Terry PD, Manichaikul A, Abbott SE, Camacho F, Jordan SJ, Nagle CM, Australian Ovarian Cancer Study Group, Rossing MA, Doherty JA, Modugno F, Moysich K, Ness R, Berchuck A, Cook L, Le N, Brooks-Wilson A, Sieh W, Whittemore A, McGuire V, Rothstein J, Anton-Culver H, Ziogas A, Pearce CL, Tseng C, Pike M, Schildkraut JM, on behalf of the African American Cancer Epidemiology Study and

the Ovarian Cancer Association Consortium. Racial/ethnic differences in the epidemiology of ovarian cancer: A pooled analysis of 12 case-control studies. *Int J Epidemiol* 2018; 47: 460-472. (PMCID: PMC5913601)

117. Freedman JA, Wang Y, Li X, Liu H, **Moorman PG**, George DJ, Lee NH, Hyslop T, Wei Q, Patierno SR. Single nucleotide polymorphisms of stemness pathway genes predicted to regulate RNA splicing, microRNA and oncogenic signaling are associate with prostate cancer survival. *Carcinogenesis* 2018; 39: 879-888. (PMCID: PMC6248658)

118. Park HK, Schildkraut JM, Alberg AJ, Bandera EV, Barnholtz-Sloan JS, Bondy M, Crankshaw S, Funkhouser E, **Moorman PG**, Peters ES, Terry P, Wang F, Ruterbusch JJ, Schwartz AG, Cote ML. Benign gynecologic conditions are associated with ovarian cancer risk in African-American women: a case-control study. *Cancer Causes Control*, 2018; 29: 1081-91. (PMCID: PMC6230481)

119. Yang Y, Wu L, Shu X, Lu Y, Shu XO, Cai Q, Beeghly-Fadiel A, Li B, Ye F, Berchuck A, Anton-Culver H, Banerjee S, Benitez J, Bjørge L, Brenton JD, Butzow R, Campbell IG, Chang-Claude J, Chen K, Cook LS, Cramer DW, DeFazio A, Dennis J, Doherty JA, Dork T, Eccles DM, Velez Edwards D, Fasching PA, Fortner RT, Gayther SA, Giles GG, Glasspool RM, Goode EL, Goodman MT, Gronwald J, Harris HR, Heitz F, Hildebrandt MAT, Høgdall E, Høgdall CK, Huntsman DG, Kar SP, Karlan BY, Kelemen LE, Kiemeney LA, Kjaer SK, Koushik A, Lambrechts D, Le ND, Levine DA, Massuger LFAG, Matsuo K, May T, McNeish IA, Menon U, Modugno F, Monteiro AN, **Moorman PG**, Moysich KB, Ness RB, Nevanlinna H, Olsson H, Onland-Moret NC, Park SK, Paul J, Pearce CL, Pejovic T, Phelan CM, Pike MC, Ramus SJ, Riboli E, Rodríguez-Antona C, Romieu I, Sandler DP, Schildkraut JM, Setiawan VW, Shan K, Siddiqui N, Sieh W, Stampfer MJ, Sutphen R, Swerdlow AJ, Szafron LM, Teo SH, Tworoger SS, Tyrer JP, Webb PM, Wentzensen N, White E, Willett WC, Wolk A, Woo YL, Wu AH, Yan L, Yannoukakos D, Chenevix-Trench G, Sellers TA, Pharoah PDP, Zheng W, Long J. Genetic data from nearly 63,000 women of European descent predicts DNA methylation biomarkers and epithelial ovarian cancer risk. *Cancer Res* 2019; 79: 505-17. (PMCID: PMC6359948)

120. Mills AM, Peres LC, Meiss A, Ring KL, Modesitt SC, Abbott SE, Alberg AJ, Bandera EV, Barnholtz-Sloan J, Bondy ML, Cote ML, Funkhouser E, **Moorman PG**, Peters ES, Schwartz AG, Terry PD, Schildkraut JM. Targetable immune regulatory molecule expression in high-grade serous ovarian carcinomas in African-American women: a study of PD-L1 and IDO in 112 Cases from the African American Cancer Epidemiology Study (AACES), *Int J Gynecol Pathol* 2019; 38: 157-70. (PMCID: PMC6109628)

121. Anderson RT, Peres LC, Camacho F, Bandera EV, Funkhouser E, **Moorman PG**, Paddock LE, Peters ES, Abbott SE, Alberg AA, Barnholtz-Sloan J, Bondy M, Cote ML, Schwartz AG, Terry P, Schildkraut JM. Individual, social and societal correlates of health-related quality of life among African-American survivors of ovarian cancer: results from the AACES Study. *J Women's Health*, 2019; 28: 284-93. (PMCID: PMC6909765)

122. **Moorman PG**, Barrett NJ, Wang F, Alberg AA, Bandera EV, Barnholtz-Sloan J, Bondy M, Cote ML, Funkhouser E, Kelemen L, Peres LC, Peters ES, Schwartz AG, Terry P, Crankshaw S, Abbott SE, Schildkraut JM. Effect of cultural, folk and religious beliefs and practices on delays in diagnosis in ovarian cancer in African American women. *J Women's Health*, 2019; 28: 444-51. (PMCID: PMC6482889)

123. Qian D, Liu H, Wang X, Ge J, Luo S, Patz EF Jr, **Moorman PG**, Su L, Shen S, Christiani DC, Wei Q. Potentially functional genetic variants in the complement-related immunity gene-set are associated with non-small cell lung cancer survival. *Int J Cancer* 2019; 144: 1867-76. (PMCID: PMC6377316)

124. Chen K, Liu H, Liu Z, Luo S, Patz EF, **Moorman PG**, Su L, Shen S, Christiani DC, Wei Q. Genetic variants in *RUNX3*, *AMD1* and *MSRA* in the methionine metabolic pathway and survival in non-small cell lung cancer patients. *Int J Cancer* 2019; 145: 621-31. (PMCID: PMC6828159)

125. Myers E, Eaton J, McElligott K, **Moorman P**, Chatterjee R, Zakama A, Goldstein K, Strauss J, Coeytaux R, Goode A, Borre E, Swamy G, McBroom A, Lallinger K, Schmidt R, Davis JK, Hasselblad V, Sanders G. Mananagement of infertility. Comparative Effectiveness Review No. 217. (Prepared by the Duke Evidence-based Practice Center under Contract No. 290-2015-00004-I.) AHRQ Publication No. 19-EHC014-EF. Rockville, MD: Agency for Healthcare Research and Quality; May 2019 .

126. Ge J, Liu H, Qian D, Wang X, **Moorman PG**, Luo S, Hwang S, Wei Q. Genetic variants of genes in the NER pathway associated with risk of breast cancer: a large scale analysis of 14 published GWAS datasets in the DRIVE study. *Int J Cancer* 2019; 145: 1270-79. (PMCID: PMC6930956)

127. Peres LC, Hebert JR, Qin B, Guertin KA, Bandera EV, Shivappa N, Carmacho TF, Chyn D, Alberg AJ, Barnholtz-Sloan JS, Bondy ML, Cote ML, Funkhouser E, **Moorman PG**, Peters ES, Schwartz AG, Terry PD, Schildkraut JM. Pre-diagnostic pro-inflammatory dietary potential is associated with all-cause mortality among African-American women with high-grade serous ovarian carcinoma. *J Nutrition* 2019; 149: 1606-16. (PMCID: PMC6735701)

128. Guo Y, Feng Y, Liu H, Luo S, Clarke JW, **Moorman PG**, Su L, Shen S, Christiani DC, Wei Q. Potentially functional genetic variants in the TNF/TNFR signaling pathway genes predict survival of patients with non-small cell lung cancer in the PLCO screening trial. *Mol Carcinogenesis* 2019; 58: 1094-1104. (PMCID: PMC6548610)

129. Grant DJ, Manichaikul A, Alberg AJ, Bandera EV, BArnholtz-Sloan J, Bondy M, Cote ML, Funkhouser E, **Moorman PG**, Peres LC, Peters ES, Schwartz AG, Terry PD, Qand X-Q, Keku TO, Hoyo C, Berchuck A, Sandler DP, Taylor JA, O'Brien KM, Velez Edwards DR, Edwards TL, Beeghly-Fadiel A, Wentzensen N, Pearce CL, Wu AH, Whittemore AS, McGuire V, Sieh W, Rothstein JH, Modugno F, Ness R, Moysich K, Rossing MA, Doherty JA, Sellers TA, Permuth-Way JB, Monteiro AN, Leine DA, Setiawan VW, Haiman CA, LeMarchand L, Wilkens LR, Karlan BY, Menon U, Ramus S, Gayther S, Gentry-Maharaj A, Terry KL, Cramer DW, Goode EL, Larson MC, Kauffman SH, Cannioto R, Odunsi K, Etter JL, Huang R-Y, Bernardini MQ, Tone AA, May T, Goodman MT, Thompson PJ, Carney ME, Tworoger SS, Poole EM, Lambrechts D, Vergote I, Vanderstichele A, Nieuwenhuysen, Anton-Culver, Ziogas A, Brenton JD, Bjorge L, Salvensen HB, Kiemeney LA, Massuger LFAG, Pejovic T, Breugl A, Moffitt M, Cook L, Le ND, Brooks-Wilson A, Kelemen LE, Pharoah PDP, Song H, Campbell I, Eccles D, DeFazio A, Kennedy CJ, Schildkraut JM. Evaluation of vitamin D biosynthesis and pathway target genes reveals UGT2A1/2 and EGFR polymorphisms associated with epithelial ovarian cancer in African American Women. *Cancer Med* 2019; 8 : 2503-13. (PMCID: PMC6536963)

130. Schildkraut JM, Peres LC, Bethea TN, Camacho, Chyn D, Cloyd EK, Bandera EV, Beeghly-Fadiel A, Lipworth L, Joslin CE, Davis FG, **Moorman PG**, Myers E, Ochs-Balcom HM, Setiawan VW, Pike MC, Wu AH, Rosenberg L. Ovarian Cancer in Women of African Ancestry (OCWAA) consortium: A resource of harmonized data from eight epidemiologic studies of African-American and white women. *Cancer Causes Control* 2019; 30: 967-78. (PMCID: PMC7325484)

131. Mullins M, Peres LC, Alberg AJ, Bandera EV, Barnholtz-Sloan JS, Bondy ML, Funkhouser E, **Moorman PG**, Peters ES, Terry PD, Schwartz AG, Lawson AB, Schildkraut JM, Cote ML. Perceived discrimination, trust in physicians and prolonged symptom duration before ovarian cancer

Diagnosis in the African American Cancer Epidemiology Study. *Cancer* 2019: 125: 4442-4451. (PMCID: PMC6891111)

132. Manichaikul A, Peres LC, Wang X-Q, Barnard ME, Chyn D, Sheng X, Du Z, Tyrer J, Dennis J, Schwartz AG, Cote ML, Peters E, **Moorman PG**, Bondy M, Barnholtz-Sloan JS, Terry P, Alberg AJ, Bandera EV, Funkhouser E, Wu AH, Pearce CL, Pike M, Setiawan VW, Haiman CA, the African American Breast Cancer Consortium (AABC), the African Ancestry Prostate Cancer Consortium (AAPC), Palmer JR, Marchand L, Wilkens LR, Berchuck A, Doherty JA, Modugno F, Ness R, Moysich K, Karlan BY, Whittemore AS, McGuire V, Sieh W, Lawrenson K, Gayther S, Sellers TA, Pharoah P, Schildkraut JM on behalf of the African American Cancer Epidemiology Study (AACES) and the Ovarian Cancer Association Consortium (OCAC). Identification of novel epithelial ovarian cancer loci in women of African ancestry. *Int J Cancer*, 2020; 146: 2987-98. (PMCID: PMC7523187)

133. Tang D, Zhao YC, Qian D, Liu H, Luo S, Patz EF, **Moorman PG**, Su L, Shen S, Christiani DC, Glass C, Gao W, Wei Q. Novel genetic variants in HDAC2 and PPARGC1A of the CREB-binding protein pathway predict survival of non-small-cell lung cancer. *Mol Carcinog* 2020; 59: 104-115. (PMCID: PMC7481022)

134. Wang T, Nichols HB, Nyante SJ, Bradshaw PT, **Moorman PG**, Kabat GC, Parada H, Khankari HK, Teitelbaum SL, Terry MB, Santella RM, Neugut AI, Gammon MD. Urinary estrogen metabolites and long-term mortality following breast cancer. *JNCI Cancer Spectrum*, 2020; 4. (PMCID: PMC7236781)

135. Staples JN, Peres LC, Camacho F, Alberg AJ, Bandera EV, Barnholtz-Sloan J, Bondy ML, Cote ML, Funkhouser E, **Moorman PG**, Peters ES, Schwartz AG, Terry PD, Schildkraut JM. Cardiometabolic comorbidities and epithelial ovarian cancer risk among African-American women in the African-American Cancer Epidemiology Study (AAACES). *Gynecol Oncol* 2020; 158: 123-9.

136. Qian D, Liu H, Zhao L, Wang X, Luo S, **Moorman PG**, Patz EF Jr, Su L, Shen S, Christiani DC, Wei Q. Novel genetic variants in the Fc gamma receptor (FCGR)-mediated phagocytosis pathway predict non-small cell lung cancer survival. *Translational Lung Cancer Res*, 2020; 9: 575-86. (PMCID: PMC7354140)

137. Wang T, Nichols HB, Nyante SJ, Bradshaw PT, **Moorman PG**, Kabat GC, Parada H, Khankari HK, Teitelbaum SL, Terry MB, Santella RM, Neugut AI, Gammon MD. Menopausal hormone therapy use and long-term all-cause and cause-specific mortality in the Long Island Breast Cancer Study Project. *Int J Cancer*, 2020; 147: 3404-3415.

138. Myers ER, Sanders GD, Coeytaux RR, McElligott KA, **Moorman PG**, Hicklin K, Grotegut C, Villers M, Goode A, Campbell H, Befus D, McBroom AJ, Davis JK, Lallinger K, Fortman R, Kosinski A. Labor Dystocia. Comparative Effectiveness Review No. 226. (Prepared by the Duke Evidence-based Practice Center under Contract No. 290-2015-00004-I.) *AHRQ Publication No. 20-EHC007.* Rockville, MD: Agency for Healthcare Research and Quality; May 2020.

139. Zhao L, Liu H, Luo S, **Moorman PG**, Walsh KM, Li W, Wei Q. Associations between genetic variants of KIF5B, FMN1 and MGAT3 in the cadherin pathway and pancreatic cancer risk. *Cancer Med* 2020; 9: 9620-31. (PMCID: PMC7774717)

140. Peres LC, Bethea TN, Camacho TF, Bandera EV, Beeghly-Fadiel A, Chyn DL, Harris HR, Joslin CE, **Moorman PG**, Myers E, Ochs-Balcom HM, Rosenow W, Setiawan W, Wu AH, Rosenberg L, Schildkraut JM. Racial differences in population attributable risk for epithelial ovarian cancer in the OCWAA Consortium. *J Natl Cancer Inst* 2021; 113: 710-8.

141. Bethea TN, Ochs-Balcom HM, Bandera EV, Beeghly-Fadiel A, Camacho F, Chyn D, Cloyd EK, Harris HR, Joslin CE, Myers E, **Moorman PG**, Peres LC, Setiawan VW, Wu AH, Rosenberg L, Schildkraut JM. First- and second-degree family history of ovarian and breast cancers in relation to risk of invasive ovarian cancer in African American and White women. *Int J Cancer 2021*; 148: 2964-73.

142. Davis CP, Bandera EVd, Bethea TN, Camacho F, Joslin CE, Wu AH, Beeghly-Fadiel A, **Moorman PG**, Myers ER, Ochs-Balcom HM, Peres LC, Rosenow WT, Setiawan VW, Rosenberg L, Schildkraut JM, Harris HR. Genital powder use and risk of epithelial ovarian cancer in the Ovarian Cancer in Women of African Ancestry Consortium. *Cancer Epidemiol Biomarkers Prev* 2021; 30: 1660-8.

143. Freedland AR, Muller RL, Hoyo C, Turner EL, **Moorman PG**, Faria EF, Carvalhal GF, Reis RB, Mauad EC, Carvalho AL, Freedland SJ. Implications of regionalizing care in the developing world: Impact of distance to referral center on compliance to biopsy recommendations in a Brazilian prostate cancer screening cohort. *Prostate Cancer* 2021, online ahead of print.

144. McBride CM, Pathak S, Johnson CE, Alberg AJ, Bandera EV, Barnholtz-Sloan JS, Bondy ML, Cote ML, **Moorman PG**, Peres LC, Peters ES, Schwartz AG, Terry PD, Schildkraut JM. Psychosocial factors associated with genetic testing status in African American women with ovarian cancer: Results from the African American Cancer Epidemiology Study. *Cancer* 2022; 128: 1252-9.

145. Peres LC, Colin-Leitzinger C, Sinha W, Marks JR, Conejo-Garcia JR, Alberg AJ, Bandera EV, Berchuck A, Bondy ML, Christensen BC, Cote ML, Doherty JA, **Moorman PG**, Peters ES, Moran Segura C, Nguyen JV, Schwartz AG, Terry PD, Wilson CM, Fridley BL, Schildkraut, JM. Racial differences in the tumor immune landscape and survival of women with high-grade serous ovarian carcinoma. *Cancer Epidemiol Biomarkers Prev*, 2022; 31: 1006-16.

146. Nash R, Johnson CE, Harris HR, Peres LC, Joslin CE, Bethea TN, Bandera EV, Ochs-Balcom HM, Myers ER, Guertin KA, Camacho F, Beeghly-Fadiel A, **Moorman PG**, Setiawan VW, Rosenberg L, Schildkraut JM, Wu AH. Race differences in the associations between menstrual cycle characteristics and epithelial ovarian cancer. *Cancer Epidemiol Beiomarkers Prev* 2022; 31: 1610-20.

147. Harris HR, Guertin KA, Camacho TF, Johnson CE, Wu AH, **Moorman PG**, Myers E, Bethea TN, Bandera EV, Joslin CE, Ochs-Balcom HM, Peres LC, Rosenow WT, Setiawan VW, Beeghly-Fadiel A, Dempsey LF, Rosenberg L, Schildkraut JM. Racial differences in epithelial ovarian cancer survival: an examination of contributing factors in the Ovarian Cancer in Women of African Ancestry consortium. *Int J Cancer* 2022; 151: 1228-39.

148. Ochs-Balcom HM, Johnson C, Guertin KA, Qin B, Beeghly-Fadiel A, Camacho F, Bethea TN, Dempsey LF, Rosenow WT, Joslin CE, Myers E, **Moorman PG,** Harris HR, Peres LC, Setiawan VW, Wu AH, Rosenberg L, Schildkraut JM, Bandera EV.. Racial differences in the association of body mass index and ovarian cancer risk in the OCWAA Consortium. *Br J Cancer* 2022; 127: 1983-90.

149. Schildkraut JM, Johnson C, Dempsey LF, Qin B, Terry P, Akonde M, Peters ES, Mandle H, Cote ML, Peres L, Moorman P, Schwartz AG, Epstein M, Marks J, Bondy M, Lawson AB, Alberg AJ, Bandera EV. Survival of epithelial ovarian cancer in Black women: a society to cell approach in the African American Cancer Epidemiology Study (AACES). *Cancer Causes Control* 2023; 34: 251-265.

150. Harris HR, Peres LC, Johnson CE, Guertin KA, Beeghly A, Bandera EV, Bethea TN, Joslin CE, Wu AH, Moorman PG, Ochs-Balcom HM, Petrick JL, Setiawan VW, Rosenberg L, Schildkraut JM, Myers E.

Racial differences in the association of endometriosis and uterine leiomyomas with the risk of ovarian cancer. *Obstet Gynecol* 2023; 141: 1124-1138.

151. Petrick JL, Joslin CE, Johnson CE, Camacho TF, Peres LC, Bandera EV, Barnard ME, Beeghly A, Bethea TN, Dempsey LF, Guertin K, Harris HR, Moorman PG, Myers ER, Ochs-Balcom HM, Rosenow W, Setiawan VW, Wu AH, Schildkraut JM, Rosenberg L. Menopausal hormone therapy and risk of ovarian cancer by race: the Ovarian Cancer in Women of African Ancestry consortium. *Br J Cancer* 2023; in press.

Letters

1. **Moorman PG**. Letter re: Breast cancer risk factors. *Drug Topics*. 2002; 146: 16.
2. **Moorman PG**. Letter re: Association of frequency and duration of aspirin use and hormone receptor status with breast cancer risk. *JAMA*. 2004; 292: 1426.
3. Schildkraut JM, **Moorman PG**, Calingaert B, Berchuck A. Letter re: Cyclin E overexpression relates to ovarian cancer histology but not to risk factors. *Cancer Epidemiol Biomarkers Prev*. 2008; 17: 1841-2.
4. **Moorman PG**. Letter re: Age at Menopause: Imputing age at menopause for women with a hysterectomy with application to risk of postmenopausal breast cancer. *Annals Epidemiol*. 2011; 21: 797.
5. Myers ER, **Moorman P**, Sanders GD. Response re: Breast cancer screening: benefit or harm? *JAMA* 2016; 315: 1402-3.
6. Trabuco EC, **Moorman PG**, Cliby WA. In reply re: Association of ovary-sparing hysterectomy with ovarian reserve. *Obstet Gynecol* 2016; 128: 655-6.

Book Chapters and Invited Papers

1. **Moorman PG**, Hames CG, Tyroler HA. Socioeconomic status and morbidity and mortality in hypertensive blacks. In Brest AN and Saunders E (eds): *Cardiovascular Clinics: Cardiovascular Diseases in Blacks*. FA Davis Company, Philadelphia, 1991, 179-93.
2. **Moorman PG**, Hulka BS. Menopausal hormones and the risk of breast cancer. *Endocrinologist.* 1992; 2: 189-94. (Article was awarded annual editorial prize by journal.)
3. Hulka BS, **Moorman PG**. Breast cancer: Hormones and other risk factors, *Maturitas.* 2001; 38: 103-13.
4. **Moorman PG**, Terry PD. Dairy products and breast cancer. 2003. United Kingdom Dairy Council. (Invited paper)
5. **Moorman PG**, Berchuck A. Comment on: Hormone replacement therapy does not increase risk for ovarian cancer in women with BRCA mutations. *North American Menopause Society First to Know*. Feb. 15, 2006. www.menopause.org/news.html.
6. **Moorman PG**, Hamilton RJ. Statins and cancer risk: what do we know and where do we go from here? *Epidemiology.* 2007; 18: 194-6. (Invited paper)

7. Hulka BS, **Moorman PG**. Breast cancer: hormones and other risk factors. *Maturitas.* 2008; 61: 203-213.
(Republished 2001 article of same title in an issue of the journal's top 10 downloaded articles for the period 2000-2008).

8. **Moorman PG**. Ovarian failure after pre-menopausal hysterectomy. *European Obstetrics & Gynecology*. 2012; 7: 35-8. (Invited paper)

9. **Moorman PG.** Genetic markers for ovarian cancer risk: are we close to seeing a clinical impact? *Personalized Medicine.* 2012; 9: 565-7. (Invited paper)

10. **Moorman PG.** Should women at high risk for cancer use oral contraceptive pills? *Personalized Medicine*. 2015, 12: 533-5. (Invited paper)

Technical Reports

1. **Moorman PG**, Goldstein K, Coeytaux R, Myers ER, Strauss J, Van Houtven C, Shepherd-Banigan M, Brancu M, Von Isenberg M, Van Noord M, Conklin J, Lallinger K, Schmidt R, McBroom Brooks A, Sanders-Schmidler G. Topic Brief: Nutritional needs of older women. Prepared for Office of Women's Health and Agency for Healthcare Research Quality (AHRQ), 2017.

2. Myers ER, Strauss J, Van Houtven C, Goldstein K, Shepherd-Banigan M, Brancu M, **Moorman PG**, Coeytaux R, Von Isenberg M, Van Noord M, Conklin J, Lallinger K, Schmidt R, McBroom Brooks A, Sanders-Schmidler G. Topic Brief: Maternal Health. Prepared for Office of Women's Health and Agency for Healthcare Research Quality (AHRQ), 2017.

3. Strauss J, Brancu M, Myers ER, Anderson S, Van Houtven C, Goldstein K, Shepherd-Banigan M, **Moorman PG**, Coeytaux R, Von Isenberg M, Van Noord M, Conklin J, Lallinger K, Schmidt R, McBroom Brooks A, Sanders-Schmidler G. Topic Brief: Women's Mental Health. Prepared for Office of Women's Health and Agency for Healthcare Research Quality (AHRQ), 2017.

4. Goldstein K, Coeytaux R, Myers ER, Strauss J, Van Houtven C, Shepherd-Banigan M, Brancu M, **Moorman PG**, Von Isenberg M, Van Noord M, Conklin J, Lallinger K, Schmidt R, McBroom Brooks A, Sanders-Schmidler G. Topic Brief: Girls' Health and Obesity. Prepared for Office of Women's Health and Agency for Healthcare Research Quality (AHRQ), 2017.

5. Shepherd-Banigan M, Van Houtven C, Brancu M, Goldstein K, **Moorman PG**, Strauss J, Coeytaux R, Von Isenberg M, Van Noord M, Conklin J, Lallinger K, Schmidt R, McBroom Brooks A, Myers ER, Sanders-Schmidler G. Topic Brief: Family Caregivers for Older Adults. Prepared for Office of Women's Health and Agency for Healthcare Research Quality (AHRQ), 2017.

Non-authored Publications (acknowledged for contributions)

1. Newman B, Millikan RC, King M-C. Genetic epidemiology of breast and ovarian cancers. *Epidemiol Rev*. 1997; 19: 69-79.

2. Millikan R, Pittman G, Tse C-K, Savitz DA, Newman B, Bell D. Glutathione S-transferases M1, Ti, and P1 and breast cancer. *Cancer Epidemiol Biomarkers Prev*. 2000; 9: 567-73.

3. Krajcik RA, Massardo S, Orentreich N. No association between serum levels of tumor necrosis factor-α (TNF- α) or the soluble receptors sTNFR1 and sTNFR2 and breast cancer risk. *Cancer Epidemiol Biomarkers Prev*. 2003; 12: 945-6.

4. Trivers KF, Stewart SL, Peipins L, Rim SH, White MC. Expanding the public health research agenda for ovarian cancer. *J Womens Health*. 2009; 18: 1299-305.

5. Soubry A, Il'yasova D, Sedjo R, Wang F, Byers T, Rosen C, Yashin A, Ukraintseva S, Haffner S, D'Agostino R Jr. Increase in circulating levels of IGF-1 and IGF-1/IGFBP-3 molar ratio over a decade is associated with colorectal adenomatous polyps. *Int J Cancer*. 2012; 131: 512-7.

Presentations and Published Abstracts (selected)

Moorman PG, Newman B, Butler LM, Ostermeyer EA, Friedman LS, Millikan RC, Liu ET, King MC. Inherited susceptibility at BRCA1 in a population-based sample. Society for Epidemiologic Research, Boston, MA, June 1996

Rockhill B, Newman B, **Moorman P**, Millikan R, Weinberg C. Summary attributable fraction and breast cancer risk factors. Society for Epidemiologic Research, Boston, MA, June 1996.

Furberg H, Newman B, **Moorman P**, Millikan R. Lactation and breast cancer risk. Society for Epidemiologic Research, Edmonton, Alberta, Canada, June 1997.

Marcus PM, Newman B, Millikan RC, **Moorman PG**, Baird DD, Sternfeld B, Qaqish B. The association of adolescent body mass index (BMI) and physical activity with breast cancer risk. Society for Epidemiologic Research, Edmonton, Alberta, Canada, June 1997.

Huang WY, Newman B, Millikan RC, Schell MJ, **Moorman PG**. Hormone-related factors and risk of breast cancer by estrogen receptor and progesterone receptor status. Society for Epidemiologic Research, Chicago, MD, 1998.

Hall IJ, Newman B, Millikan RC, **Moorman PG**. Evaluating body size and breast cancer risk among black women. Society for Epidemiologic Research, Chicago, MD, 1998.

Marcus PM, Newman B, Millikan RC, Baird DD, **Moorman PG,** Qaqish B. Breast cancer epidemiology: the case for adolescent exposures. Society for Epidemiologic Research, Baltimore, MD, 1999.

Moorman PG. Menopausal hormones and risk of breast cancer. Carolina Breast Cancer Study Participant Symposium, Chapel Hill, NC, April 2000

Moorman PG, Jones BA, Millikan RC, Hall IJ, Newman B. Race, anthropometric factors, and stage at diagnosis of breast cancer. Society for Epidemiologic Research, Seattle, WA, June 2000.

Hall IJ, Newman B, Millikan RC, **Moorman PG**. Comparative analysis of breast cancer risk factors among African-American women and white women. Congress of Epidemiology, Toronto, Ontario, Canada, June 2001.

Moorman PG, et al. Nuts and bolts of field studies: things they didn't teach you in school. Congress of Epidemiology, Toronto, Ontario, Canada, June 2001. (Invited talk)

Moorman PG, Calingaert B, Vine M, Halabi S, Berchuck A, Schildkraut JM. Comparison of two methods for calculating lifetime ovulatory cycles. Congress of Epidemiology, Toronto, Ontario, Canada, June 2001.

Plummer P, Jackson S, Konarski J, Mahanna E, Dunmore C, Regan G, Mattingly D, Parker B, Williams S, Andrews C, Vannapppagari V, HallS, Deming S, Hodgson E, **Moorman P**, Newman B, Millikan R. Making epidemiologic studies responsive to the needs of participants and communities: the Carolina Breast Cancer Study experience. Conference on Breast Cancer and Environmental Mutagens, Research Triangle Park, NC, September 2001.

Moorman PG. Population-based study of breast cancer among African-American and White women in North Carolina. North Carolina Central University, Durham, NC, January 2003. (Invited talk)

Moorman PG. Medication use and breast cancer risk. Psychiatry and Behavioral Sciences Grand Rounds, Memorial Sloan-Kettering Cancer Center, New York, NY, March 2003. (Invited talk)

Sansbury L, Millikan R, Schroeder J, **Moorman P**, North K, Sandler R. Use of non-steroidal anti-inflammatory drugs, cyclooxygenase-2 Val411Ala polymorphism and association with colon cancer in a population-based study of African Americans and whites. 3rd Annual AACR International Conference, Seattle, WA, October 2004.

Schildkraut JM, Berchuck A, Murphy S, Marks J, **Moorman P**, Calingaert B, Halabi S. Trinucleotide repeat polymorphisms in the androgen receptor gene and risk of ovarian cancer. 3rd Annual AACR International Conference, Seattle, WA, October 2004.

Moorman PG, Sesay J, Nwosu V, Millikan R. Non-steroidal anti-inflammatory drugs, COX2 polymorphism and breast cancer: a study of gene-environment interactions. Triangle Cancer and Disparities Symposium, North Carolina Central University, Durham, NC, March 2005.

Moorman PG. Racial disparities in breast cancer: problem or opportunity? Johnson C. Smith University, Charlotte, NC, September 2005. (Invited talk)

Trivers K, Gammon M, Abrahamson P, Lund MJ, Kaufman J, **Moorman P**, Cai JW, Porter P, Brinton L, Eley JW. Reproductive factors and breast cancer survival in women less than 55 years of age. 4th Annual Conference on Frontiers in Cancer Prevention Research, Baltimore, MD, November 2005.

Moorman PG. The role of epidemiology in the drug development process. University of Ferrara, Ferrara, Italy, May 2006. (Invited talk)

Moorman PG. Racial disparities in breast cancer: risk factors through survival. Women's Health Research Symposium - Untying the Pink Ribbon: Advances in Breast Cancer. University of Maryland School of Medicine. Baltimore, MD, March 2008. (Invited talk)

Moorman PG, JM Schildkraut JM, ES Iversen ES, ER Myers ER, M Gradison M1, N Warren-White N, F Wang. Weight gain after pre-menopausal hysterectomy. Society for Epidemiologic Research, Chicago, IL, June 2008.

Moorman PG. Non-steroidal anti-inflammatory drugs (NSAIDs) as chemopreventives for cancer: are they ready for prime time? Genetics and Environmental Mutagenesis Society 26th Annual Fall Meeting. Research Triangle Park, NC, October 2008. (Invited talk)

Moorman PG. Introduction to cancer epidemiology. Osher Lifelong Learning Institute lecture series. Chapel Hill, NC, September 2009. (Invited talk)

Moorman PG. Challenges of epidemiologic research in the genomic era: the example of ovarian cancer. Environmental Mutagen Society Annual Meeting, St. Louis, MO, October 2009 (Invited talk)

Moorman PG. Epidemiology in clinical research: beyond randomized controlled trials. Duke University Health System Clinical Education and Professional Development Series, Durham, NC, January 2010. (Invited talk)

Moorman PG. Epidemiology in clinical research: beyond randomized controlled trials. Association of Clinical Research Professionals, Durham, NC, June 2010. (Invited talk)

Moorman PG. The role of epidemiology in understanding disparities in breast cancer. Duke Oncology Symposium – Advances in Surgical and Treatment Options for Breast and Colorectal Cancer. Raleigh, NC, May 2011. (Invited talk)

Østbye T, **Moorman P**. Measurement dilemmas: validity, reliability and messy data. Family Medicine Research Seminar Series, Duke University Medical Center, December 2011.

Moorman P, Østbye T. Research that can tell you something: internal and external validity in study design. Family Medicine Research Seminar Series, Duke University Medical Center, November 2011.

Myers ER, Havrilesky LJ, Gierisch J, **Moorman PG**, Dinan MA, Coeytaux R, Urrutia RP, Lowery WJ, Hasselblad V, McBroom AJ, Sanders GD. Using net benefits and acceptability curves to quantify uncertainty about tradeoffs between harms and benefits of oral contraceptives. Society for Medical Decision Making, Phoenix, AZ, October 2012.

Myers ER, Havrilesky LJ, Gierisch J, **Moorman PG**, Dinan MA, Coeytaux R, Urrutia RP, Lowery WJ, Hasselblad V, McBroom AJ, Sanders GD. Net effects of current patterns of oral contraceptive use on potentially fatal outcomes in the United States. Society for Medical Decision Making, Phoenix, AZ, October 2012.

Stouder A, Melcher B, Morgan PA, **Moorman PG**, Lin L, Stem J. Satisfaction Guaranteed? An Analysis of Lecturer Characteristics Associated with Physician Assistant Student Satisfaction. Physician Assistant Education Association Annual Education Forum, Seattle, WA, November 2012.

Moorman PG. The African American Cancer Epidemiology Study (AACES). Ovarian Cancer in Women of African Ancestry Emerging Consortium Meeting. Bethesda, MD, April 2013.

Moorman PG. Ovarian Cancer: What You Need to Know. Duke Cancer Institute, Cancer Awareness Workshop. Durham, NC, May, August and October 2014.

Moorman PG. Ovarian Cancer in African American Women: The Challenges of Studying a Less Common Cancer in a Minority Population. Duke Cancer Institute Cancer Control and Population Sciences Seminar Series. Durham, NC, July 2014.

CONSULTANT APPOINTMENTS

National Institutes of Health, Center for Scientific Review

- Epidemiology and Disease Control Subcommittee 2 (EDC-2): Oct. 2000, Feb. 2001
- Special Emphasis Panels: Nov. 2001, Mar. 2002, Nov. 2002, Nov. 2003, July 2004, Nov. 2004, June 2005, Mar. 2006, Nov. 2006, Mar. 2007, July 2007, Nov. 2008, June 2009, July 2009, July 2010, Oct. 2010, Sept. 2011, Dec. 2013, Mar. 2017, Nov. 2017
- Small Grants Program for Cancer Epidemiology: Nov. 2001, Mar. 2003, June 2016, Mar. 2017, June 2017, June 2018, Nov. 2018, Apr. 2019
- National Cancer Institute, Program Project Review: Jan. 2003, Aug. 2003, Dec. 2003.
- SPORE (Specialized Program of Research Excellence) Review: Breast Cancer Feb. 2005, Ovarian Cancer June 2008, Feb. 2009.

Centers for Disease Control and Prevention. Defining the Public Health Research Agenda for Ovarian Cancer. Invited panel participant. Nov. 2008.

Susan G. Komen for the Cure, Study Section Chair for Post-Doctoral Fellowship in Risk and Prevention, 2010.

Susan G. Komen Breast Cancer Foundation, Study Section Chair for Risk, Prevention and Epidemiology, Member of Programmatic Review Committee, 2005 – 2007.

Susan G. Komen for the Cure/Susan G. Komen Breast Cancer Foundation, Scientific Reviewer, 2003 - 2011.

Department of Defense Breast Cancer Research Program Scientific Peer Review, 1998, 2005, 2007, 2008, 2009, 2013.

Department of Defense Breast Cancer Research Program, Study Section Chair for Training - Epidemiology and Prevention, 2013.

Department of Defense Ovarian Cancer Research Program Scientific Peer Review, 2015, 2016.

Department of Defense Ovarian Cancer Research Program, Study Section Chair for Investigator Initiated Research II, 2018.

National Cancer Institute, Center for Global Health, Data Monitoring Committee for United States – Latin American Cancer Research Network, 2013

CODA, Inc., Research Triangle Park, NC. IRB member, 2004.

National Institute of Environmental Health Sciences Special Emphasis Panel, Technical Evaluation of Support Services for Epidemiology, NIEHS Epidemiology Branch. May 1998.

PROFESSIONAL AWARDS AND SPECIAL RECOGNITIONS

Honorary Physician Assistant, Duke University Medical Center Physician Assistant Program - 2018

Certificate of Appreciation, Duke University Medical Center Physician Assistant Program – 2008

Delta Omega, Public Health Honorary – 1994

The Endocrinologist, Editorial Prize for Volume II – 1993

Research Service Award, National Cancer Institute - 1988-91

Edward E. Smissman Award for Medicinal Chemistry, University of Kansas – 1980

Walter F. Enz Award for Pharmaceutical Chemistry, University of Kansas – 1980

Watkins-Berger Scholarship, University of Kansas - 1975-1980

State of Kansas Scholarship, University of Kansas - 1976-1980

ORGANIZATIONS AND PARTICIPATION

University of North Carolina School of Public Health Alumni Association, Epidemiology Section President, 2001-2002.

Society for Epidemiologic Research

American Pharmaceutical Association

TEACHING RESPONSIBILITIES

Courses Taught

Evidence Based Medicine-I, Duke University, Department of Community and Family Medicine, Physician Assistant program. Primary instructor, 2004-2017.

Evidence Based Medicine-II, Duke University, Department of Community and Family Medicine, Physician Assistant program. Co-Instructor, 2003-2018.

Evidence Based Medicine-I, Duke University, Department of Community and Family Medicine, Physician Assistant program. Lecturer and seminar instructor, 2003.

Epidemiology and Research Methods (PAP 255), Duke University, Department of Community and Family Medicine, Physician Assistant program. Seminar instructor, 2001-2002.

Epidemiology of Cancer (CDE 532B), Yale University, Department of Epidemiology and Public Health. Course director, 1997-2000.

Co-developer of departmental Master's Comprehensive Examination, University of North Carolina-Chapel Hill, Department of Epidemiology, 1995-1996.

Cancer Epidemiology (EPID 233), University of North Carolina-Chapel Hill, Department of Epidemiology, Teaching Assistant, 1992-1993.

Principles of Epidemiology (EPID 160), University of North Carolina-Chapel Hill, Department of Epidemiology, Teaching Assistant, 1990.

Student Mentoring

Helena Furberg, MSPH, University of North Carolina, 1996, Committee Member

Pamela M. Marcus, PhD, University of North Carolina, 1997, Committee Member

Stella Chang, MPH, Yale University, 1997, Committee Member

Mary Riciutti, MPH, Yale University, 1999, Committee Chair

Edward A. Lew, MPH, Yale University, 1999, Committee Member

Shelley Goodstine, MPH, Yale University, 1999, Committee Member

Rupal Desai, MPH, Yale University, 1999, Committee Member

Pei-Yu Lin, MPH, Yale University, 2000, Committee Chair

Lisa Calvocoressi, Ph.D., Yale University, 2003, Dissertation Reader

Rebecca Cleveland, Ph.D., University of North Carolina, 2003, Committee Member

Leah Sansbury, Ph.D., University of North Carolina, 2004, Committee Member

Sumitra Shantakumar White, Ph.D., University of North Carolina, 2006, Committee Member

Katrina Trivers, Ph.D., University of North Carolina, 2006, Committee Member

Amy Dailey, Ph.D., Yale University, 2006, Dissertation Reader

Enid Rivera, M.D., Duke University, 2008, 3rd year Medical Student Preceptor

Alexis Gaines, Duke University, 2013, Master's Committee Member

Chioma Erondu, Duke University, 2013-14, 3rd year Medical Student Preceptor

Tolulope Teniola, Duke University 2016-17, 3rd year Medical Student Preceptor

Tengteng Wang, Ph.D., University of North Carolina, 2019, Committee Member

COMMITTEES AND SERVICE

Duke University School of Medicine Institutional Review Board (IRB), 2005-2021

Research Mentoring Awards Selection Committee, Duke University School of Medicine, 2018-2021

Standing Committee on Misconduct in Research, Duke University School of Medicine, 2017-2021

Duke CTSA Grant Reviewer: TL1 Awards 2020; KL2 Awards 2016, 2018, 2019, 2020, 2021; CTSI Pre-doctoral Awards 2019.

Duke REACH Equity Grant Reviewer, 2018.

Faculty Search Committee, Department of Family Medicine and Community Health, Duke University School of Medicine, 2018-19

Senior Faculty Advisory Committee, Office for Research Mentoring, Duke University School of Medicine, 2016

Academy of Mentors, Office of Faculty Mentoring, Duke University School of Medicine, 2014-16

Society for Epidemiologic Research. Reviewer for Tyroler and Lilienfeld Prize Papers, 2015

Appointments, Promotions and Tenure Committee, Department of Community and Family Medicine, Duke University Medical Center. Committee Member, 2008-2018

Quality Assurance Sub-Committee for Clinical Research Units, Duke University Medical Center, Committee Chair, 2013-2014

Quality Assurance Sub-Committee for Clinical Research Units (formerly Site-based Research Units), Duke University Medical Center, Committee Member, 2011-2013

Path to Independence Faculty Mentoring Program, Duke University School of Medicine, Peer Reviewer , 2012-2018.

Society for Epidemiologic Research. Abstract reviewer for annual meeting, 2011

Cancer Prevention, Detection and Control Research Program, Duke University Medical Center, Cancer Control Pilot Study application reviewer, 2010, 2011

Executive Council, Department of Community and Family Medicine, Duke University Medical Center 2009-2017

Education Committee, Department of Community and Family Medicine, Duke University Medical Center, 2009-2017

Faculty Search Committee, Cancer Prevention, Detection and Control Research Program, 2010

Duke Cancer Institute, Editorial Advisory Committee Member, 2010-2011

Duke Comprehensive Cancer Center Annual Meeting, Judge for poster presentations, 2009

Director Search Committee, Cancer Prevention, Detection and Control Research Program, 2009

Partners Allied in Research (PAIR) Pilot Grant application reviewer, Cancer Prevention, Detection and Control Research Program, 2005

Editorial Reviewer

American Journal of Epidemiology
Archives of Gynecology and Obstetrics
BMC Women's Health Review
Breast Diseases
British Journal of Clinical Pharmacology
Cancer BiomarkersCancer Causes and Control
Cancer Research
Epidemiology
Gynecologic Oncology
International Journal of Epidemiology
Journal of Community Development
J of the Women's American Medical Assn
Lancet
Nutrition and Cancer
PLOS One
Trends in Molecular Medicine
Women's Health Issues
Annals of Epidemiology
BMC Cancer
Breast Cancer Research and Treatment
British Medical Journal-Cancer
Cancer
Cancer Epidemiology Biomarkers and Prevention
Clinical Breast Cancer
Ethnicity and Disease
International Journal of Cancer
JAMA
Journal of the National Cancer Institute
Journal of Women's Health
Lancet Oncology
Pharmacogenomics
Public Health Nutrition
Women and Health

CURRENT RESEARCH

Epidemiology of breast and ovarian cancer
Ovarian function after hysterectomy
Racial differences in disease risk and outcomes
Medication use and cancer risk
Etiologic factors for uterine fibroids

EXTERNAL SUPPORT - PAST

Principal Investigator	% effort	Title of Project and Funding Source	Total Costs	Duration
Barbara Hulka	25%	High-Density Lipoprotein Cholesterol and Breast Cancer, National Cancer Institute, R03, Supported dissertation research	$72,234	1992 – 1993
Beth Newman	100%	Carolina Breast Cancer Study, Project 2 SPORE in Breast Cancer, National Cancer Institute, P50.	$1,275,000	1992 – 1995
Beth Newman	50%	Carolina Breast Cancer Study, Project 2 SPORE in Breast Cancer, National Cancer Institute, P50.	$2,511,146	1995 - 1996

Patricia Moorman	50%	Medication Use and Breast Cancer in a Bi-racial Population, National Cancer Institute, R29-FIRST Award.	$498,302	1996 – 2002
Patricia Moorman	0%	Carolina Breast Cancer Study Participant Symposium, North Carolina Division of American Cancer Society Small Grant.	$2500	1997
Patricia Moorman	0%	Carolina Breast Cancer Study Participant Symposium, Susan G. Komen Breast Cancer Foundation Small Grant.	$5000	1997
Joellen Schildkraut	10%	Carolina Georgia Center, Cancer Genetics Network, National Cancer Institute, U-24.	$4,028,129	2002 – 2004
Patricia Moorman	0%	Non-steroidal Anti-Inflammatory Drugs and Breast Cancer: A Study of Gene-Environment Interactions among African-American and White Women, Minority Serving Institution Partnership Grant, Pilot Funds.	$28,040	2003 – 2004
Celette Skinner	5%	Partnerships to Eliminate Disparities in Cancer Outcomes and Research, National Cancer Institute, National Cancer Institute.	$517,743	2002 – 2006
Patricia Moorman	0%	Diversity Supplement to RO1 AG020162 Ovarian Failure Among Hysterectomized Women, National Institute on Aging (Note: Grant was awarded but post-doc accepted another position.)	$169,720	2006
Andrew Berchuck	5%	Biological Basis for Chemoprevention of Ovarian Cancer, Department of Defense.	$824,000	2002 – 2007
Stephen Freedland	5%	Weight Loss and Gain and Cancer Free Survival after Radical Prostatectomy in a Multiethnic Cohort. Prostate Cancer Foundation.	$100,000	2007-2009
Joellen Schildkraut	10%	Genetic Modifiers of BRCA1 and BRCA2, Project 3 SPORE in Breast Cancer. National Cancer Institute.	$1,795,862	2003 – 2009
Joellen Schildkraut	10%	Molecular Epidemiology of Ovarian Cancer. National Cancer Institute.	$3,750,000	2003 – 2010
Patricia Moorman	40%	Ovarian Failure among Hysterectomized Women. National Institute on Aging.	$3,781,480	2003 - 2010
Patricia Moorman (Sub-contract PI)	3%	Cancer Genetics Network. National Cancer Institute.	~$25,000	2010 – 2012

Laura Havrilesky	15%	Oral Contraceptive Use for the Primary Prevention of Ovarian Cancer. Agency for Healthcare Research and Quality	$486,476	2010 - 2012
Jeffrey Marks	5%	Atlantic Breast and Gynecologic Clinical Validation Center. National Cancer Institute	>$1,500,000	2010 - 2013
Cathrine Hoyo	5%	Disparities in Cervical Cancer Precursors and Deregulation of Imprinted Genes National Cancer Institute	~$200,000	2012 – 2013
Emanuel Trabuco (Moorman, Duke PI)	2%	Anti-Müllerian Hormone as a Marker of Ovarian Reserve in Women with and without Hysterectomy. Mayo Clinic Internal Funds	$100,000	2012 – 2013
Evan Myers	10%	Systematic Review of Cancer Screening Literature for Updating American Cancer Society Breast Cancer Screening Guidelines American Cancer Society	~$400,000	2013 - 2014
Joellen Schildkraut	9%	Cancer Education and Career Development Training Grant. National Cancer Institute	~$1,400,000	2009 – 2014
Patricia Moorman (Sub-contract PI)	5%	Rare Cancer Genetics Network National Cancer Institute	~$240,000	2010 – 2016
Joellen Schildkraut (Moorman, co-PI)	20%	Epidemiology of Ovarian Cancer in African American Women National Cancer Institute	~$12,000,000	2010 – 2017
Gillian Sanders	10%	Management of Infertility Evidence-Based Practice Center		2015-2016
Gillian Sanders	10%	Management of Labor Dystocia Evidence-Based Practice Center		2016
Gillian Sanders	15%	Office of Women's Health – Topic Development Evidence-Based Practice Center		2016
Evan Myers	5%	Comparing Management Options for Management: Patient-centered Results for Uterine Fibroids (COMPARE-UF) PCORI	~$19,000,000	2014 – 2018
Joellen Schildkraut (Moorman,sub-contract PI)	13%	Exploring Factors Related to Racial Disparities in Ovarian Cancer Incidence and Survival: The OCWAA (Ovarian Cancer in Women of African Ancestry) Consortium National Cancer Institute	~$450,000	2017 - 2021

Joellen Schildkraut	5%	Ovarian Cancer Survival in African American Women, National Cancer Institute	2020-2021

EXHIBIT B

2021 Report Addendum

ADDENDUM TO
RULE 26 EXPERT REPORT OF
PATRICIA G. MOORMAN, MSPH, PHD
DATED NOVEMBER 16, 2018

Date: April 21, 2021

Patricia G. Moorman, MSPH, PHD

Since my report of November 16, 2018, additional material related to the topic of my report has become available. The attached list of references identifies materials I found most relevant to this subject. The new material consists of FDA results of testing talc-containing cosmetic products for asbestos, new epidemiologic data specific to ovarian cancer, mechanistic data, data on talc analysis in ovarian tissue, a systemic review and meta-analysis, a narrative review, and opinion pieces and letters to the editor.

In my 2018 report, I described my methodology to review, assess, and weigh material relevant to the inquiry of whether there is an association between talcum powder product use and ovarian cancer. I used the same critical method of review with this new material, for individual publications and relative to the cumulative body of evidence on this subject. Generally, this new material provides additional evidence that supports the causal connection between talcum powder product use and ovarian cancer.

After incorporating this new material within the body of evidence and analysis of my 2018 report, my opinion is supported and strengthened. Based on the evidence in total, it is my opinion with a reasonable degree of scientific certainty that use of talcum powder products can cause ovarian cancer. I reserve the right to modify or refine my opinions based on additional scientific evidence that may emerge on this topic.

To assist in understanding the new evidence on this topic, I discuss four papers published since my 2018 report, which provide the most relevant additional epidemiologic data and perspective on ovarian cancer and talc use: Gabriel, 2019; O'Brien, 2020; Taher, 2019; and Goodman, 2020.

Two of these papers described new analyses of the association between talc or body powder use and ovarian cancer (Gabriel, 2019; O'Brien, 2020). Notably, prior publications from these study populations had reported on talc and ovarian cancer, (Cramer, 2016; Gonzalez, 2016; Gertig, 2000; Houghton, 2014) which is important to bear in mind when considering the new information that is to be gleaned from these papers. The other papers are a systematic review and meta-analysis (Taher, 2019) and a narrative review (Goodman, 2020).

Gabriel, 2019

The first paper by Gabriel and colleagues (2019), described the effects of talc use and douching, individually and jointly, on ovarian cancer risk and other genital tract conditions in a case-control study conducted in Massachusetts and New Hampshire. Consistent with a previous report on this study population, (Cramer, 2016) there was a statistically significantly increased risk of ovarian cancer among women who reported use of talc (odds ratio (OR) 1.30, 95% confidence interval (CI) 1.13-1.50), with a significant trend of increasing risk with greater use of talc (p=0.0001). Similar associations with talc use were reported among women who reporting douching (OR 1.32, 95% CI 0.95-1.82) and those who did not douche (1.28, 95% CI 1.09-1.51). In contrast to the talc findings, douching was not significantly associated with ovarian cancer (OR 0.98, 95% CI 0.83-1.17, overall; OR 1.03, 95% CI 0.77-1.38 among talc users; and OR 0.94, 95% CI 0.76-1.16 among those who never used talc).

This paper sheds light on two points that have been raised in regard to whether the association between talc use and ovarian cancer is "real", namely recall bias and uncontrolled confounding. Recall bias is often invoked as an explanation for the observed association between talc use and ovarian cancer in case-control studies, with the idea that women with ovarian cancer are more likely to recall their exposure to talc than control women, leading to a spurious increase in risk. If this indeed were the case, one would expect that the ovarian cancer cases similarly would be more likely to recall use of douching products. Both are non-prescription products used for feminine hygiene, so if there was over-reporting by cases, it would be reasonable to see it to a similar degree for both types of products. The fact that the investigators found no association between ovarian cancer and douching, but a significant association between ovarian cancer and talc, argues against the association with talc being a result of recall bias.

In regard to uncontrolled confounding, most of the papers describing the association between talc use and ovarian cancer have not examined douching as a potential confounding variable. After the publication of the Gonzalez paper in 2016, (Gonzalez, 2016) which reported a significant association between douching and ovarian cancer, some argued that the association between talc use and ovarian cancer could have been due to the uncontrolled confounding effects of douching. The Gabriel paper accounted for the potential confounding effect of

douching by presenting results for both women who reported douching and those who never douched, with significant associations between talc use and ovarian cancer in both groups. These data, along with data from prior studies that either controlled for the possible confounding effects of douching in their analyses (Harlow, 1992; Gonzalez, 2016) or reported no association between douching and ovarian cancer (Hartge, 1983), argue against the notion that the association between talc use and ovarian cancer is due to uncontrolled confounding.

O'Brien, 2020

The second paper reporting a new analysis of talc and ovarian cancer (O'Brien, et al., 2020) combined data from four cohorts: the Nurses Health Study I and II, the Sister Study and the Women's Health Initiative. All of these cohorts have previously reported on the association between talc use and ovarian cancer (Gertig, 2000; Gonzalez, 2016; Houghton, 2014) except for the Nurses Health Study II, which contributed 76 cases of the 2213 ovarian cancer cases in this analysis.

Overall results were quite consistent with their previous reports and with pooled analyses from meta-analyses, reporting a pooled hazard ratio (HR) of 1.08 (95% CI 0.99-1.17), and a statistically significantly increased risk among women with a patent reproductive tract (HR 1.13, 95% CI 1.01-1.26). The investigators reported many sub-group analyses including personal characteristics such as age, BMI and menopausal status and tumor characteristics such as invasiveness and histotype (e.g., Table 4, Figure, Supplemental Tables 3 and 4). While the majority of reported HRs were not statistically significant, it is noteworthy that the vast majority of them were greater than 1. If in fact there was no association between talc use and ovarian cancer, one would expect that the HRs would cluster around the null value of 1, with roughly equal numbers of HRs above and below 1. The fact that most HRs were above 1 is contrary to what one would expect if talc truly were not associated with risk for ovarian cancer.

As is common in epidemiologic papers, the authors described some of the strengths and limitations of their study. As was discussed in my previous report, the cohort studies typically note that they are not subject to recall bias because information on talc use was obtained before the diagnosis of ovarian cancer. However, O'Brien et al, did not discuss the probable non-differential misclassification of talc use due to errors in recall or the phrasing used in the

questions to assess talc exposure. In these cohort studies, women were asked to recall their use of a product that may have been used decades ago. As noted in Table 1 of the O'Brien paper, the age at assessment of powder use ranges from 35 to 81 years. Given that the majority of women initiate talc use in their teens or 20s, it is apparent that some women were being queried about a product that they used as much as 50 years earlier, and some women likely misreported their exposure. The misreporting of the exposure in the Sisters Study was likely greater than the other studies due to their exposure assessment questions. In their previous report, exposure was based on use in the prior 12 months (Gonzalez, 2016). In the analysis in the O'Brien paper, exposure was based on use of talc in the prior 12 months or at ages 10 to 13 years, which is a slight improvement over what was reported in Gonzalez, 2016, but still would have resulted in misclassification of talc exposure in a substantial proportion of women. The result of such non-differential misclassification is generally a bias towards the null, resulting in an attenuation of the HR.

An additional concern with the cohort studies is that because of the age of the cohorts at the time of talc exposure assessment, a substantial number of the women in the cohorts who had ovarian cancer were excluded. Using information from the footnote to Table 1, the table below shows the number of women in the cohorts who were excluded because they had a diagnosis of ovarian cancer prior to baseline (i.e., time of questionnaire about powder use) and the number of included cases that were diagnosed after baseline. While it is appropriate from an analytic standpoint to include only cases diagnosed after baseline (incident cases), it is apparent that this could limit the generalizability of these findings, because the women included in the cohorts are older. If talc use is more strongly associated with ovarian cancer diagnosed at younger ages, the use of cohorts of older women would be less able to detect such an association.

	Nurses Health Study I	Nurses Health Study II	Sister Study	Women's Health Initiative
Excluded	174	287	225	641
Included	1258	76	220	659

Taher, 2019

Taher, et al. (Taher, 2019; Kadry Taher, 2020) published a systematic review and meta-analysis on perineal use of talc powder and ovarian cancer that was funded by Health Canada.

The results of their meta-analysis were concordant with two other recent meta-analyses (Berge, 2017; Penninkilampi, 2018), reporting an overall relative risk for ovarian cancer associated with talc use of 1.28 (95% CI 1.20-1.37). They also noted a possible increasing trend in ovarian cancer risk with increasing cumulative exposure to talc, albeit with a high degree of uncertainty. In addition to the epidemiologic data, the authors also evaluated data from non-human studies to evaluate the carcinogenicity of talc. In their evaluation of potential biological mechanisms, they made the statement the "Talcum powder has been asbestos-free since the (sic) 1976 where the specifications for cosmetic talc were developed", which based on recent evaluations of talcum powder products has been shown to be untrue. (FDA, 2020) Nonetheless, after consideration of data from both human and non-human studies, their overall conclusion was consistent with the IARC evaluation that perineal exposure to talc is a possible cause of ovarian cancer in humans.

Goodman, 2020

Goodman, et al. (Goodman, 2020) published a review of talc and ovarian cancer that was funded by the Cosmetics Alliance Canada and concluded that the evidence does not support a causal association between perineal talc use and ovarian cancer. This paper did not present new data, but rather the authors' evaluation and interpretation of previously-published data.

In regard to the epidemiologic data, several of the points made in this article deserve comment. The authors discuss the possibility of recall bias in case-control studies at length and make the point that an "approach to reducing recall bias is to design surveys such that subjects are asked about a variety of chemical exposures in addition to the exposure of interest (i.e., talc in this case) such that subjects are unaware of the main hypothesis of the study and do not become fixated on one environmental exposure in particular. In some studies, questionnaires employed are focused on talc use, and no other environmental exposures (besides smoking) are assessed. These questionnaires are not designed to mitigate recall bias." This characterization of questionnaires used in the case-control studies is not accurate. All of the larger case-control studies that reported on talc and ovarian cancer have published on numerous other exposures in their study populations including reproductive characteristics, medication use, smoking, alcohol use, family history, socioeconomic status, etc. Surveys used in case-control studies typically collect detailed information on a wide variety of known and suspected ovarian cancer

risk factors. As such, it is highly unlikely that the subjects were "fixated" on talc exposure in particular, leading to substantial recall bias.

In their discussion of recall bias, the authors also fail to mention that if recall bias were the likely explanation for the increased risk seen with talc exposure, one would also expect to see increased risk for similar exposures. This has not been the case, as was discussed in detail above for douching, a feminine hygiene practice that one would expect would be recalled similarly to talc use.

These authors also invoke uncontrolled confounding as a possible explanation for the association between talc use and ovarian cancer in case-control studies. Although it is theoretically possible that there is some factor(s) associated with both talc use and ovarian cancer that acts as a confounder of the association, no such confounder has been identified. While this is a concern that has been raised by others skeptical of the association, an increased risk of ovarian cancer with talc use has been reported repeatedly since 1982 and during this nearly four-decade period, no one has reported a confounding factor that could explain away the association.

Another point worth addressing in the Goodman paper is that their discussion of the biological plausibility of talc being a cause of ovarian cancer completely ignores the issue of asbestos in talcum powder products. The introduction states that "In 1976, cosmetic-grade talc specifications required that there be no detectable fibrous, asbestos minerals". However, there is no acknowledgment in their paper that various analyses have found asbestos in talcum powder products manufactured after 1976, including one directed by the U.S. Food and Drug Administration (FDA, 2020) that resulted in the recall of Johnson & Johnson's baby powder in October 2019. Asbestos has been established as a cause of ovarian cancer (IARC, 2012) and the Occupational Safety and Health Administration (OSHA) (https://www.osha.gov/asbestos) has stated that there is no safe level of asbestos exposure. The authors' failure to discuss asbestos in talcum powder products as a biologically plausible mechanism severely undermines their conclusion that "there is insufficient evidence for any proposed mechanism by which talc might possibly cause ovarian cancer."

REFERENCES

Casey R, Larkin TP. Ovarian cancer and "tainted talc": what treating physicians need to know. *Mo Med* 2019; Mar-Apr;116(2):83-86.

Chirino OR. Tainted talc and ovarian cancer. *Mo Med*. 2019 May-Jun;116(3):170-171.

Cramer DW, Vitonis AF, Terry KL, Welch WR, Titus LJ. The association between talc use and ovarian cancer; a retrospective case-control study in two US states. *Epidemiology* 2016; 27:334-46.

Dragani TA. Difficulties in establishing a causal link between chemical exposures and cancer cannot be overcome by court assessments. *Hum Exp Toxicol*. 2020 Aug;39(8):1095-1107.

Egilman, Madigan D, Yimam M, Tran T. Evidence that cosmetic talc is a cause of ovarian cancer. *Gynecol Pelvic Me*d 2020; http://dx.doi.org/10.21037/gpm-20-28

FDA in Brief: FDA Releases Final Report of Talc-containing Cosmetic Products Tested for Asbestos, March 9, 2020. https://www.fda.gov/news-events/fda-brief/fda-brief-fda-releases-final-report-talc-containing-cosmetic-products-tested-asbestos

Fletcher NM, Harper AK, Memaj I, Fan R, Morris RT, Saed GM. Molecular basis supporting the association of talcum powder use with increased risk of ovarian cancer. *Reprod Sci* 2020;27(10):1836-1838.

Fletcher NM, Harper AK, Memaj I, Fan R, Morris RT, Saed GM. Molecular basis supporting the association of talcum powder use with increased risk of ovarian cancer. *Reprod Sci* 2019;26(12):1603-1612.

Gabriel IM, Vitonis AF, Welch WR, Titus L, Cramer DW. Douching, talc use, and risk for ovarian cancer and conditions related to genital tract inflammation. *Cancer Epidemiol Biomarkers Prev* 2019; 28(11):1835-1844.

Gertig DM, Hunter DJ, Cramer DW, et al. Prospective study of talc use and ovarian cancer. *J Natl Cancer Inst.* 2000;92(3):249-252.

Gonzalez NL, O'Brien KM, D'Aloisio AA, Sandler DP, Weinberg CR. Douching, talc use, and risk of ovarian cancer. *Epidemiology.* 2016;27(6):797-802.

Goodman JE, Kerper LE, Prueitt RL, Marsh CM. A critical review of talc and ovarian cancer. *J Toxicol Environ Health B Crit Rev*. 2020 Jul 3;23(5):183-213

Harlow BL, Cramer DW, Bell DA, Welch WR. Perineal exposure to talc and ovarian cancer risk. *Obstet Gynecol* 1992; 80: 19-26.

Hartge P, Hoover R, Lesher LP, McGowan L. Talc and ovarian cancer. *JAMA* 1983; 250: 1844.

Houghton SC, Reeves KW, Hankinson SE, et al. Perineal powder use and risk of ovarian cancer. *J Natl Cancer Inst.* 2014;106(9).

Internation Agency for Research on Cancer (IARC). IARC Monographs on the evaluation of carcinogenic risks to humans-arsenic, metals, fibres and dust. 2012; 100C: 219-310.

Jacob SL, Cornell E, Kwa M, Funk WE, Xu S. Cosmetics and Cancer: Adverse Event Reports Submitted to the Food and Drug Administration. *JNCI Cancer Spectr* 2018 Jun 20;2(2):pky012.

Larkin T, Ford G. Does talc used in the genital area cause ovarian cancer? *Mo Med*. 2020 Jan-Feb;117(1):21.

Mandarino A, Gregory DJ, McGuire CC, Leblanc BW, Witt H, Rivera LM, Godleski JJ, Fedulov AV. The effect of talc particles on phagocytes in co-culture with ovarian cancer cells. *Environ Res* 2020 Jan;180:108676.

McDonald SA, Fan Y, Welch WR, Cramer DW, Stearns RC, Sheedy L, Katler M, Godleski JJ. Correlative polarizing light and scanning electron microscopy for the assessment of talc in pelvic region lymph nodes. *Ultrastruct Pathol* 2019;43(1):13-27

McDonald SA, Fan Y, Welch WR, Cramer DW, Godleski JJ. Migration of Talc From the Perineum to Multiple Pelvic Organ Sites. *Am J Clin Pathol* 2019;152(5):590-607.

Mossman BT. Letter to the Editor: Fletcher NM, Harper AK, Memaj I, Fan R, Morris RT, Saed GM. Molecular basis supporting the association of talcum powder use with increased risk of ovarian cancer. *Reprod Sci* 2019;26(12):1603-12.

O'Brien KM, Tworoger SS, Harris HR, Anderson GL, Weinberg CR, Trabert B, Kaunitz AM, D'Aloisio AA, Sandler DP, Wentzensen N. Association of powder use in the genital area with risk of ovarian cancer. *JAMA* 2020;323(1):49-59.

O'Brien KM, Tworoger SS, Harris HR, Trabert B, Weinberg CR, Fortner RT, D'Aloisio AA, Kaunitz AM, Wentzensen N, Sandler DP. Genital powder use and risk of uterine cancer: A pooled analysis of prospective studies. *Int J Cancer* 2021 Jan 12. doi: 10.1002/ijc.33470. Epub ahead of print.

O'Brien KM, D'Aloisio AA, Shi M, Murphy JD, Sandler DP, Weinberg CR. Perineal Talc Use, Douching, and the risk of uterine cancer. *Epidemiology* 2019 Nov;30(6):845-852.

Rosner D, Markowitz G, Chowkwanyun M. "Nondetected": The politics of measurement of asbestos in talc, 1971-1976. *Am J Public Health* 2019;109(7):969-974.

Slomovitz B, de Haydu C, Taub M, Coleman RL, Monk BJ. Asbestos and ovarian cancer: examining the historical evidence. *Int J Gynecol Cancer*. 2021 Jan;31(1):122-128.

Steffen JE, Tran T, Yimam M, Clancy KM, Bird TB, Rigler M, Longo W, Egilman DS. Serous ovarian cancer caused by exposure to asbestos and fibrous talc in cosmetic talc powders-a case series. *J Occup Environ Med*. 2020; 62(2):e65-e77.

Taher MK, Farhat N, Karyakina NA, Shilnikova N, Ramoju S, Gravel CA, Krishnan K, Mattison D, Wen SW, Krewski D. Critical review of the association between perineal use of talc powder and risk of ovarian cancer. *Reprod Toxicol* 2019; 90:88-101.

Taher MK, Farhat N, Karyakina NA, Shilnikova N, Ramoju S, Gravel CA, Krishnan K, Mattison D, Wen SW, Krewski D. Data on systematic review and meta-analysis of epidemiologic evidence on the association between perineal use oftalc powder and risk of ovarian cancer. *Data Brief* 2020; Feb 20;29:105277.

Tran TH, Steffen JE, Clancy KM, Bird T, Egilman DS. Talc, asbestos, and epidemiology: corporate influence and scientific ncognizance. *Epidemiology* 2019; 30(6):783-788.

EXHIBIT C

Testimony List

DEPOSITION OR TRIAL TESTIMONY PROVIDED IN LAST FOUR YEARS

Deposition Testimony

U.S. District Court, Southern District of Florida, *In re: Zantac (Ranitidine) Products Liability Litigation*, MDL No. 2924: May 16-17, 2022 and October 21, 2022

Trial Testimony

None